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December 8, 2003

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TO: Interested Parties / Applicant

RE: Aero Metals / 091-12683-00074

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and

- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

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Indianapolis, Indiana 46206-

6015

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PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Aero Metals, Inc.
402 Darlington Street
LaPorte, Indiana 46350**

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T091-12683-00074	
Issued by: Original signed by Janet G. McCabe Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: December 8, 2003 Expiration Date: December 8, 2008

TABLE OF CONTENTS

A	SOURCE SUMMARY	6
A.1	General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]	
A.2	Part 70 Source Definition [326 IAC 2-7-1(22)]	
A.3	Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]	
A.4	Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]	
A.5	Part 70 Permit Applicability [326 IAC 2-7-2]	
B	GENERAL CONDITIONS	11
B.1	Definitions [326 IAC 2-7-1]	
B.2	Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]	
B.3	Enforceability [326 IAC 2-7-7]	
B.4	Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]	
B.5	Severability [326 IAC 2-7-5(5)]	
B.6	Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]	
B.7	Duty to Provide Information [326 IAC 2-7-5(6)(E)]	
B.8	Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]	
B.9	Annual Compliance Certification [326 IAC 2-7-6(5)]	
B.10	Preventive Maintenance Plan [326 IAC 2-7-5(1),(3)and (13)][326 IAC 2-7-6(1)and(6)] [326 IAC 1-6-3]	
B.11	Emergency Provisions [326 IAC 2-7-16]	
B.12	Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]	
B.13	Prior Permits Superseded [326 IAC 2-1.1-9.5]	
B.14	Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]	
B.15	Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]	
B.16	Permit Renewal [326 IAC 2-7-4]	
B.17	Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]	
B.18	Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]	
B.19	Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]	
B.20	Source Modification Requirement [326 IAC 2-7-10.5]	
B.21	Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]	
B.22	Transfer of Ownership or Operational Control [326 IAC 2-7-11]	
B.23	Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]	
C	SOURCE OPERATION CONDITIONS	21
	Emission Limitations and Standards [326 IAC 2-7-5(1)]	
C.1	Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [40 CFR 52 Subpart P][326 IAC 6-3-2]	
C.2	Opacity [326 IAC 5-1]	
C.3	Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.4	Incineration [326 IAC 4-2] [326 IAC 9-1-2]	
C.5	Fugitive Dust Emissions [326 IAC 6-4]	
C.6	Operation of Equipment [326 IAC 2-7-6(6)]	
C.7	Stack Height [326 IAC 1-7]	
C.8	Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	
	Testing Requirements [326 IAC 2-7-6(1)]	
C.9	Performance Testing [326 IAC 3-6]	

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

C.12 Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]

C.13 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11]
[326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

C.15 Compliance Response Plan - Preparation, Implementation, Records, and Reports
[326 IAC 2-7-5] [326 IAC 2-7-6]

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]
[326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)]
[326 IAC 2-6]

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1 FACILITY OPERATION CONDITIONS - Melting Furnaces 29

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate [326 IAC 6-3]

D.1.2 Prevention of Significant Deterioration [326 IAC 2-2]

D.1.3 General Provisions Relating to HAPs [326 IAC 20-1-1][40 CFR 61, Subpart A]

D.1.4 Beryllium [40 CFR 61, Subpart C]

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

D.1.7 Particulate Matter (PM)

Compliance Monitoring Requirements

D.1.8 Visible Emissions Notations

D.1.9 Cyclone Inspections

D.1.10 Cyclone Failure Detection

Record Keeping Requirements

D.1.11 Record Keeping Requirements

D.2 FACILITY OPERATION CONDITIONS - Blasting/Knock Out Machines 33

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate [326 IAC 6-3]

D.2.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

D.2.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

D.2.5 Particulate Matter (PM)

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- D.2.6 Visible Emissions Notations
- D.2.7 Cyclone Inspections
- D.2.8 Cyclone Failure Detection
- D.2.9 Parametric Monitoring
- D.2.10 Air Collection System Inspections
- D.2.11 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.2.12 Record Keeping Requirements

D.3 FACILITY OPERATION CONDITIONS - Rainfall Units/Sanders/Sand Beds/Friction Saws 36

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.3.1 Particulate [326 IAC 6-3]
- D.3.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]
- D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

- D.3.4 Particulate Matter (PM)

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- D.3.5 Visible Emissions Notations
- D.3.6 Parametric Monitoring
- D.3.7 Dust Collector Inspections
- D.3.8 Broken or Failed Dust Collector Detection

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.3.9 Record Keeping Requirements

D.4 FACILITY OPERATION CONDITIONS - Wax Burn Out Ovens/Caustic Metal Parts Cleaner 40

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.4.1 Particulate [326 IAC 6-3]
- D.4.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Compliance Determination Requirements

- D.4.3 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

D.5 FACILITY OPERATION CONDITIONS - Shotblasters, Sandblasters, Degators 42

- D.5.1 Particulate [326 IAC 6-3]
- D.5.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Compliance Determination Requirements

- D.5.3 Particulate Matter (PM)

D.6 FACILITY OPERATION CONDITIONS - Degreasing Operations 44

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.6.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]
- D.6.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

D.7 FACILITY OPERATION CONDITIONS - Insignificant Foundry Operations 46

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.7.1 Particulate [326 IAC 6-3]

- D.7.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]
- D.7.3 Particulate Matter (PM) [326 IAC 6-2-3(e)]
- D.7.4 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]
- D.7.5 Secondary Aluminum NESHAP [40 CFR 63, Subpart RRR]

Compliance Determination Requirements

- D.7.6 Particulate Matter (PM)

Certification 49

Emergency Occurrence Report 50

Quarterly Deviation and Compliance Monitoring Report 52

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1, A.3, and A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary steel/brass/copper/aluminum investment casting operation.

Responsible Official:	Ron Gigliotti
Source Address:	402 Darlington Street, LaPorte, Indiana 46350
Mailing Address:	402 Darlington Street, LaPorte, Indiana 46350
General Source Phone Number:	219-326-1976
SIC Code:	3324
County Location:	LaPorte
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program
	Minor Source, under PSD Rules
	Minor Source, Section 112 of the Clean Air Act
	Not 1 of 28 Source Categories

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This stationary steel/brass/copper/aluminum investment casting operation consists of two (2) plants:

- (a) Aero East is located at 402 Darlington Street, LaPorte, Indiana; and
- (b) Aero West is located at 1201 East Lincolnway, LaPorte, Indiana.

Since the two (2) plants are located on contiguous properties, belong to the same industrial grouping, and under common control of the same entity, they will be considered one (1) source, effective from the date of issuance of the FESOP Permit Revision, 091-11381-00120, issued on May 12, 2000.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

Aero East:

- (a) Six (6) electric induction melting furnaces with a total rating of 4,600 pounds metal (steel/brass/copper) per hour:
 - (1) Two (2) 750 pound electric induction melting furnaces capable of processing 600 pounds of beryllium containing metal per hour each, identified as EU-007 and EU-008, and constructed in 1979, and two (2) 1,460 pound electric induction melting furnaces capable of processing 900 pounds of beryllium containing metal per hour each, identified as EU-009 and EU-010 and constructed in July of 1998, all controlled for particulate matter by one (1) cyclone, exhausting at one (1) stack identified as SV-007; and
 - (2) Two (2) 1,460 pound electric induction melting furnaces capable of processing 800 pounds of non-beryllium containing metal per hour each and identified as EU-058 and EU-059, constructed in March of 1998, with particulate matter controlled by one (1) cyclone, and exhausting at one (1) stack identified as SV-021.

- (b) Three (3) shot blasters identified as EU-032, EU-034, and EU-041, three (3) ceramic mold knock out machines identified as EU-038, EU-039, and EU-040, and one (1) sandblaster identified as EU-042, all constructed in 1979, with a total maximum capacity of processing 0.49 tons of steel per hour, and all controlled for particulate matter by three (3) cyclones identified as CU-056, CU-057, and CU-058 respectively, and one (1) air collection system (fabric filters), identified as D-003, exhausting at one (1) stack identified as SV-048;
- (c) Five (5) friction saws identified as EU-033, EU-035, EU-036, EU-037, and EU-133, each with a maximum capacity of processing 0.98 tons of steel per hour, controlled for particulate matter by five (5) dust collectors, which vent internally;
- (d) Two (2) silica sand rain fall sanders identified as EU-049 and EU-050, one (1) silica sand rain fall/ fluidized bed sander identified as EU-111, and one (1) Zircon mix tank identified as EU-131, all constructed in 1979, with a total maximum capacity of 0.084 tons of sand per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-1, which vents internally;
- (e) One (1) fluidized sand bed identified as EU-088, one (1) silica sand rain fall sander identified as EU-107, each constructed in 1979, and one (1) rain fall sander/fluidized bed identified as EU-087, constructed in 2001, with a total maximum capacity of 0.042 tons of sand per hour, controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, which vents internally;
- (f) Eight (8) natural gas fired ovens, for removing wax from sand molds, each rated at 0.55 million British thermal units (MMBtu) per hour, identified as EU-002, EU-003, EU-004, EU-005, EU-060, EU-061, EU-084, and EU-085, each with a maximum capacity of processing 0.46 tons of sand molds per hour, and each exhausting through individual stacks respectively identified as SV-002, SV-003, SV-004, SV-005, SV-022, SV-023, SV-046 and SV-047;
- (g) One (1) sodium hydroxide solution (caustic) metal parts cleaning unit rated at 4900 pounds steel castings per hour and identified as EU-001, constructed in 1979, with a wet scrubber for caustic fume control identified as CU-001, and exhausting at one (1) stack identified as SV-001.

Aero West:

- (a) One (1) sandblast cabinet system identified as EU-260, constructed in 1995, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-160, which vents internally;
- (b) Three (3) sandblasters identified as EU-285, EU-286 and EU-287, constructed in 1979, and one (1) sandblaster identified as EU-284, constructed in 2000, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge system for particulate matter control, and exhausting through stack SV-175, which vents internally; and
- (c) One (1) shot blaster identified as EU-137, constructed in 2001, one (1) 2-inch degater identified as EU-266, one (1) degater machine identified as EU-267, one (1) 4-inch degater machine identified as EU-269, and one (1) two station key polisher, identified as EU270, with a total maximum capacity of processing 0.099 tons of steel per hour, all controlled for particulate matter by an internal micro air collection system (fabric filters), identified as D-002, exhausting at one (1) stack identified as SV-179, which vents internally;

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

- (a) This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):
- (1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (i) one (1) boiler system rated at 3.35 MMBtu per hour, constructed in 1983 [326 IAC 6-2];
 - (2) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 [326 IAC 8-3-2][326 IAC 8-3-5];
 - (i) One (1) Safety Kleen Degreaser, identified as EU-294, using less than 145 gallons per 12 month period; and
 - (ii) One (1) H.D. Degreaser, identified as EU-276, using less than 145 gallons per 12 month period;
 - (3) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment, venting to one (1) stack SV-178 [326 IAC 6-3-2];
 - (4) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations [326 IAC 6-3-2]:
 - (i) One (1) surface grinder identified as EU-012, utilizing one (1) dust collector for particulate matter control, and exhausting through stack SV-080, which vents internally;
 - (ii) One (1) CNC mill identified as EU-274, with a maximum capacity of 0.23 pounds of carbon per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-162, which vents internally;
 - (iii) Two (2) EDM mill machines identified as EU-275 and EU-277, constructed in 1998, each with a maximum capacity of 0.06 pounds of carbon per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-163, which vents internally;
 - (iv) One (1) OKK CNC milling machine identified as EU-292, constructed in 1979, controlled for particulate matter by one (1) fabric filter cartridge, and exhausting at one (1) stack identified as SV-176, which vents internally;
 - (v) Four (4) surface grinders identified as EU-262 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, all utilizing one (1) fabric filter cartridge unit for particulate matter control, and exhausting through stack SV-161, which vents internally.
 - (5) Seven (7) milling machines, each with a maximum capacity of 0.10 pounds of steel per hour [326 IAC 6-3-2];
 - (6) One (1) two-head degator, identified as EU-046 [326 IAC 6-3-2] ;
 - (7) One (1) surface mill machine identified as EU-025 [326 IAC 6-3-2] ;

- (8) Nineteen (19) miscellaneous belt sanders, grinders, saws, and degaters with particulate matter emissions below 5 pounds per hour [326 IAC 6-3-2]:
 - (i) Burr King belt sander (Aero-0275);
 - (ii) Roboform EDM (Aero-0277);
 - (iii) SBL EDM (Aero-0701);
 - (iv) grinder (Aero-0702);
 - (v) Bador grinder (Aero-0273);
 - (vi) band saw (Aero-0250);
 - (vii) Cincinnati grinder (Aero-0445);
 - (viii) Burr King belt sander (Aero-0463);
 - (ix) 9-inch degator (Aero-0422);
 - (x) 9-inch degator (Aero-0422B);
 - (xi) 8-inch degator (Aero-0423);
 - (xii) Burr King belt sander (Aero-0539);
 - (xiii) six station degator (Aero-0424);
 - (xiv) automatic degator (Aero-0444);
 - (xv) 6-inch belt sander (Aero-0704);
 - (xvi) Delta band saw (Aero-0372); and
 - (xvii) three (3) Burr King belt sanders (Aero-0449, Aero-0376, and Aero-0516);
 - (9) One (1) 400 pound aluminum melt pot with a maximum capacity of melting 225 pounds of aluminum per hour, identified as aluminum melt pot, exhausting internally [326 IAC 6-3-2]; and
 - (10) One (1) abrasive saw, identified as EU-086, constructed in 2001, controlled for particulate matter by one (1) cyclone, identified as CU-070, exhausting through one (1) stack identified as SV-062, which vents internally [326 IAC 6-3-2].
- (b) The following insignificant activities are not specifically regulated, but listed herein per the source's request:
- (1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (i) one (1) furnace rated at 0.58 MMBtu per hour;
 - (ii) four (4) furnaces each rated at 0.075 MMBtu per hour;
 - (iii) twelve (12) heaters each rated at 0.10 MMBtu per hour;
 - (iv) six (6) natural gas-fired heaters identified as EU-251 through EU-256, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-151 through SV-156, respectively;
 - (v) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;
 - (vi) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.08 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively.
 - (2) Machining where an aqueous cutting coolant continuously floods the machining interface;
 - (3) Closed loop heating and cooling systems;
 - (4) Any operation using aqueous solutions containing less than 1 percent by weight of VOCs excluding

HAPs;

- (5) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (6) Heat exchanger cleaning and repair;
- (7) Paved and unpaved roads and parking lots with public access;
- (8) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process;
- (9) Blowdown for any of the following: sight glass; boiler; compressors; pump; and cooling tower;
- (10) Cleaners and solvent operations owned and serviced by an outside vendor, characterized as follows:
 - (i) Having a vapor pressure equal to or less than 2kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or;
 - (ii) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;
- (11) Any unit emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:
 - (i) Trichloroethylene used for smoothing flaw marks on wax molds;
- (12) One (1) solvent based wax pattern cleaning operation utilizing Nalco Wax Cleaner or equivalent;
- (13) Twelve (12) work benches using trichloroethylene for wax repair;
- (14) Twelve (12) heat torches to melt wax;
- (15) Twenty-four (24) non-volatiles/non-particulate matter emitting injection molders;
- (16) One (1) steam autoclave wax melter;
- (17) One water vapor vent exhaust identified as SV-166;
- (18) One (1) water blaster.

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.3 Enforceability [326 IAC 2-7-7]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.4 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)]
[326 IAC 1-6-3]**

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and the Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

Northwest Regional Office:
Telephone Number: 219-881-6712

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.
 - (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
 - (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain

a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
 - (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
 - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deletedby this permit.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-4]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015

Indianapolis, Indiana 46206-6015

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(2) If IDEM, OAQ upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3]

If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]

If IDEM, OAQ fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request.
[326 IAC 2-7-11(c)(3)]

(d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)]

[326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
- (3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the

"responsible official" as defined by 326 IAC 2-7-1(34).

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [40 CFR 52 Subpart P][326 IAC 6-3-2]

- (a) Pursuant to 40 CFR 52 Subpart P, particulate matter emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This condition is not federally enforceable.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. 326 IAC 9-1-2 is not federally enforceable.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4(d), (e), and (f), and 326 IAC 1-7-5(d) are not federally enforceable.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos

inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.9 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

**C.13 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)]
[326 IAC 2-7-6(1)]**

- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Preventive Maintenance Plan for the pH meter shall include calibration using known standards. The frequency of calibration shall be adjusted such that the typical error found at calibration is less than one pH point.
- (d) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

- (f) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level.
[326 IAC 1-5-3]

C.15 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5]
[326 IAC 2-7-6]

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
 - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be 10 days or more until the unit or device will be shut down, then the permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.
- (e) The Permittee shall record all instances when, in accordance with Section D, response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

**C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]
[326 IAC 2-7-6]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

**C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)]
[326 IAC 2-6]**

- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:
 - (1) Indicate estimated actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
 - (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant which is used only for purposes of Section 19 of this rule") from the source, for purposes of Part 70 fee assessment.
- (b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

- (a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) Six (6) electric induction melting furnaces with a total rating of 4,600 pounds metal (steel/brass/copper) per hour:
- (1) Two (2) 750 pound electric induction melting furnaces capable of processing 600 pounds of beryllium containing metal per hour each, identified as EU-007 and EU-008, and constructed in 1979, and two (2) 1,460 pound electric induction melting furnaces capable of processing 900 pounds of beryllium containing metal per hour each, identified as EU-009 and EU-010 and constructed in July of 1998, all controlled for particulate matter by one (1) cyclone, exhausting at one (1) stack identified as SV-007; and
 - (2) Two (2) 1,460 pound electric induction melting furnaces capable of processing 800 pounds of non-beryllium containing metal per hour each and identified as EU-058 and EU-059, constructed in March of 1998, with particulate matter controlled by one (1) cyclone, and exhausting at one (1) stack identified as SV-021.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the emission units listed in the table below shall be limited by the following:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Equipment I.D.	Process Weight Rate (ton/hr)	Allowable Emission Rate (lb/hr)
Induction Furnace (EU-007)	0.300	8.46
Induction Furnace (EU-008)	0.300	
Induction Furnace (EU-009)	0.450	
Induction Furnace (EU-010)	0.450	
Induction Furnace (EU-058)	0.400	4.44
Induction Furnace (EU-059)	0.400	

D.1.2 Prevention of Significant Deterioration [326 IAC 2-2]

- (a) This source shall not melt any post-consumer scrap materials in any of the furnaces, identified as EU-007 through EU-010, EU058 and EU059. Only bars, billets, plate, round, and in-house returns shall be melted in any of the furnaces. The source shall not engage in demagging, refining, or fluxing. Therefore, this source is not considered a secondary metal production facility and is not one of the 28 listed source categories.

- (b) PM emissions from the induction furnaces, identified as EU-007 - EU-010, exhausting to stack SV-007, shall not exceed 8.46 pounds per hour.
- (c) PM emissions from the induction furnaces, identified as EU-058 and EU-059, exhausting to stack SV-021, shall not exceed 4.44 pounds per hour.
- (d) PM10 emissions from the induction furnaces, identified as EU-007 - EU-010, exhausting to stack SV-007, shall not exceed 7.66 pounds per hour.
- (e) PM10 emissions from the induction furnaces, identified as EU-058 and EU-059, exhausting to stack SV-021, shall not exceed 5.11 pounds per hour.

Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

D.1.3 General Provisions Relating to HAPs [326 IAC 20-1-1][40 CFR 61, Subpart A]

The provisions of 40 CFR 61 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the induction furnaces, identified as EU-007, EU-008, EU-009 and EU-010, except when otherwise specified in 40 CFR 61 Subpart C.

D.1.4 Beryllium [40 CFR 61, Subpart C]

- (a) That pursuant to 40 CFR 61, Subpart C (National Emission Standard for Beryllium), beryllium emissions to the atmosphere shall not exceed 10 grams of beryllium over a 24 hour period. This limit applies to the total beryllium emissions from EU-007, EU-008, EU-009 and EU-010 combined.
- (b) The use of any metals containing beryllium by the furnaces designated as EU-058 and EU-059, must be approved by the Office of Air Quality (OAQ) before such change may occur.

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and the control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

- (a) No later than five (5) years after January 10, 2001, the Permittee shall perform beryllium testing on furnaces EU7-EU10 at the cyclone exhaust stack (S/V7) utilizing methods per 40 CFR Part 61 Appendix B, Method 104. Method 103 of Appendix B to this part is approved by the Administrator as an alternative method. This test shall be repeated at least once every five years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.
- (b) No later than five (5) years after January 10, 2001, the Permittee shall perform PM and PM-10 testing on the electric induction furnaces, identified as EU-007 through EU-010, exhausting to stack SV-007, and EU-058 and EU-059, exhausting to stack SV-021, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM-10 includes filterable and condensable PM-10. Testing shall be conducted in accordance with Section C - Performance Testing.

D.1.7 Particulate Matter (PM)

In order to comply with Conditions D.1.1 and D.1.2, the cyclones for PM and PM10 control shall be in operation and control emissions from the induction furnaces at all times that the induction furnaces are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.8 Visible Emissions Notations

- (a) Visible emission notations of the electric induction melting furnaces stack exhausts (SV-007 and SV-021) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.1.9 Cyclone Inspections

An inspection shall be performed each calendar quarter of all cyclones controlling the induction furnaces when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months.

D.1.10 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.11 Record Keeping Requirements

- (a) To document compliance with Condition D.1.2(a), the Permittee shall maintain records of all materials melted in each furnace. Records shall include purchase orders and invoices as necessary to verify the composition of input material melted in each furnace. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (b) Pursuant to 40 CFR 61.33(c), to document compliance with Condition D.1.4, the Permittee shall maintain records of emission test results and other data needed to determine total beryllium emissions. Records shall be retained at the source and made available, for inspection upon request.
- (c) To document compliance with Condition D.1.8, the Permittee shall maintain records of visible emission notations of the electric induction melting furnaces stack exhausts (SV-007 and SV-021) once per shift.
- (d) To document compliance with Condition D.1.9, the Permittee shall maintain records of the results of the inspections required under Condition D.1.9 and the dates the vents are redirected.
- (e) To document compliance with Condition D.1.5, the Permittee shall maintain records of any additional

inspections prescribed by the Preventive Maintenance Plan.

- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero East

Three (3) shot blasters identified as EU-032, EU-034, and EU-041, three (3) ceramic mold knock out machines identified as EU-038, EU-039, and EU-040, and one (1) sandblaster identified as EU-042, all constructed in 1979, with a total maximum capacity of processing 0.49 tons of steel per hour, and all controlled for particulate matter by three (3) cyclones identified as CU-056, CU-057, and CU-058 respectively, and one (1) air collection system (fabric filters), identified as D-003, exhausting at one (1) stack identified as SV-048.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate [326 IAC 6-3]

The allowable particulate emission rate from the shotblasting, knock out machines, and sandblasting facilities, all exhausting to stack SV-048, shall not exceed 2.54 pounds per hour when operating at a process weight rate of 0.49 tons per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

The total PM and PM-10 emissions shall each not exceed 2.54 pounds per hour from the Shot Blasters (EU-032, EU-034 and EU-041), the ceramic mold knock out machines (EU-038 through EU-040), and the Sandblaster (EU-042) combined, which exhaust through stack SV-048. Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and the control devices.

Compliance Determination Requirements

D.2.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within 180 days after the issuance of this Part 70 permit, the Permittee shall perform PM and PM10 testing of the shotblasting, knock out machines, and sandblasting facilities (Stack 048) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM-10 includes filterable and condensable PM-10. Testing shall be conducted in accordance with Section C- Performance Testing.

D.2.5 Particulate Matter (PM)

In order to comply with Conditions D.2.1 and D.2.2, the cyclones and air collection system for PM and PM10 control shall be in operation and control emissions from the shotblasting, knock out machines, and sandblasting facilities at all times that the shotblasting, knock out machines, and sandblasting are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.6 Visible Emissions Notations

(a) Visible emission notations of the shotblasting, knock out machines, and sandblasting facilities stack

exhaust (Stack 048) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.2.7 Cyclone Inspections

An inspection shall be performed each calendar quarter of all cyclones controlling the shotblasting, knock out machines, and sandblasting facilities when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months.

D.2.8 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.2.9 Parametric Monitoring

The Permittee shall record the total static pressure drop across the air collection system used in conjunction with the shotblasting, knock out machines, and sandblasting facilities, at least once per shift when the shotblasting, knock out machines, and sandblasting facilities are in operation. When for any one reading, the pressure drop across the air collection system is outside the normal range of 0.5 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan -Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.2.10 Air Collection System Inspections

An inspection shall be performed each calendar quarter of the cartridge system controlling the shotblasting, knock out machines, and sandblasting facilities when venting to the atmosphere. An air collection system inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective cartridges shall be replaced.

D.2.11 Broken or Failed Bag Detection

In the event that a bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.
- (b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.12 Record Keeping Requirements

- (a) To document compliance with Condition D.2.6, the Permittee shall maintain records of visible emission notations of the shotblasting, knock out machines, and sandblasting facilities stack exhaust once per shift.
- (b) To document compliance with Condition D.2.9, the Permittee shall maintain once per shift records of the total static pressure drop during normal operation when venting to the atmosphere.
- (c) To document compliance with Conditions D.2.7 and D.2.10, the Permittee shall maintain records of the results of the inspections required under Conditions D.2.7 and D.2.10 and the dates the vents are redirected.
- (d) To document compliance with Condition D.2.5, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero East

- (a) Five (5) friction saws identified as EU-033, EU-035, EU-036, EU-037, and EU-133, each with a maximum capacity of processing 0.98 tons of steel per hour, controlled for particulate matter by five (5) dust collectors, which vent internally;
- (b) Two (2) silica sand rain fall sanders identified as EU-049 and EU-050, one (1) silica sand rain fall/fluidized bed sander identified as EU-111, and one (1) Zircon mix tank identified as EU-131, all constructed in 1979, with a total maximum capacity of 0.084 tons of sand per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-1, which vents internally;
- (c) One (1) fluidized sand bed identified as EU-088, one (1) silica sand rain fall sander identified as EU-107, each constructed in 1979, and one (1) rain fall sander/fluidized bed identified as EU-087, constructed in 2001, with a total maximum capacity of 0.042 tons of sand per hour, controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, which vents internally;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate [326 IAC 6-3]

The particulate emissions from the emission units listed in the table below shall be limited by the following:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Equipment I.D.	Process Weight Rate (ton/hr)	Allowable Emission Rate (lb/hr)
Friction Saws (EU-033, EU-035, EU-036, EU-037, and EU-133)	0.98 each	4.04 each
Rainfall sanders (EU-049, EU-050, EU-111), Zircon mix tank (EU-131)	0.084	0.78
Fluidized sand bed (EU-088), rainfall/fluidized bed sander (EU-107), rainfall sander/fluidized bed (EU-087)	0.042	0.49

D.3.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) The PM and PM-10 emissions shall each not exceed 4.04 pounds per hour from each of the Friction Saws (EU-033, EU-035, EU-036, EU-037, and EU-133).
- (b) The total PM and PM-10 emissions shall each not exceed 0.78 pounds per hour from the Silica Sand Rainfall Units (EU-049 and EU-050), the Silica Rainfall/Fluidized Bed Sander (EU-111), and the Zircon Mix Tank (EU-131) combined.
- (c) The total PM and PM-10 emissions shall each not exceed 1.10 pounds per hour from the Fluidized Sand Bed (EU-088), the Rainfall Sander/Fluidized Bed (EU-087) and the Silica Rainfall Sander (EU-107) combined.

Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and the control devices.

Compliance Determination Requirements

D.3.4 Particulate Matter (PM)

In order to comply with Conditions D.3.1 and D.3.2, the dust collectors for PM and PM10 control shall be in operation and control emissions from the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed at all times that the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.5 Visible Emissions Notations

- (a) Visible emission notations of the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed stack exhausts (Stacks 015, 016, 017, and 081 through 085) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.3.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across each of the dust collectors used in conjunction with the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed, at least once per shift when the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed are in operation and venting to the atmosphere. When for any one reading, the pressure drop across any dust collector is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.3.7 Dust Collector Inspections

An inspection shall be performed each calendar quarter of all dust collectors controlling the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective filters shall be replaced.

D.3.8 Broken or Failed Dust Collector Detection

In the event that dust collector failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.
- (b) For single compartment dust collectors, if failure is indicated by a significant drop in the dust collector's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.9 Record Keeping Requirements

- (a) To document compliance with Condition D.3.5, the Permittee shall maintain records of visible emission notations of the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed stack exhaust once per shift.

- (b) To document compliance with Condition D.3.6, the Permittee shall maintain once per shift records of the total static pressure drop during normal operation when venting to the atmosphere for each dust collector.
- (c) To document compliance with Condition D.3.7, the Permittee shall maintain records of the results of the inspections required under Condition D.3.7 and the dates the vents are redirected.
- (d) To document compliance with Condition D.3.3, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero East

- (a) Eight (8) natural gas fired ovens, for removing wax from sand molds, each rated at 0.55 million British thermal units (MMBtu) per hour, identified as EU-002, EU-003, EU-004, EU-005, EU-060, EU-061, EU-084, and EU-085, each with a maximum capacity of processing 0.46 tons of sand molds per hour, and each exhausting through individual stacks respectively identified as SV-002, SV-003, SV-004, SV-005, SV-022, SV-023, SV-046 and SV-047;
- (b) One (1) sodium hydroxide solution (caustic) metal parts cleaning unit rated at 4900 pounds steel castings per hour and identified as EU-001, constructed in 1979, with a wet scrubber for caustic fume control identified as CU-001, and exhausting at one (1) stack identified as SV-001.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate [326 IAC 6-3]

The particulate emissions from the emission units listed in the table below shall be limited by the following:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Equipment I.D.	Process Weight Rate (ton/hr)	Allowable Emission Rate (lb/hr)
Wax burn-out ovens (EU-002 - EU-005, EU-060, EU-061, EU-084 and EU-085)	0.46 each	2.43 each
Caustic metal parts cleaner (EU-001)	2.45	7.47

D.4.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) PM and PM₁₀ emissions shall each not exceed 0.63 pounds per hour from each of the wax burn out ovens (EU-002, EU-003, EU-004, EU-005, EU-060, EU-061, EU-084, and EU-085), which exhaust through stacks identified as SV-002, SV-003, SV-004, SV-005, SV-022, SV-023, SV-046 and SV-047, respectively.
- (b) PM and PM₁₀ emissions shall each not exceed 2.75 pounds per hour from the sodium hydroxide solution (caustic) metal parts cleaning unit (EU-001), exhausting at one (1) stack, identified as SV-001.

Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

Compliance Determination Requirements

D.4.3 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within 180 days after the issuance of this Part 70 permit, the Permittee shall perform PM and PM-10 testing on at least two (2) of the wax burn out ovens, identified as EU-002 through EU-005, EU-060, EU061, EU-084 and EU085, exhausting to stacks SV-002 through SV-005, SV-022, SV-023, SV-046 and SV-047, respectively, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM-10 includes filterable and condensible PM-10. Testing shall be conducted in accordance with Section C - Performance Testing.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero West

- (a) One (1) sandblast cabinet system identified as EU-260, constructed in 1995, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-160, which vents internally;
- (b) Three (3) sandblasters identified as EU-285, EU-286 and EU-287, constructed in 1979, and one (1) sandblaster identified as EU-284, constructed in 2000, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge system for particulate matter control, and exhausting through stack SV-175, which vents internally; and
- (c) One (1) shot blaster identified as EU-137, constructed in 2001, one (1) 2-inch degater identified as EU-266, one (1) degater machine identified as EU-267, one (1) 4-inch degater machine identified as EU-269, and one (1) two station key polisher, identified as EU270, with a total maximum capacity of processing 0.099 tons of steel per hour, all controlled for particulate matter by an internal micro air collection system (fabric filters), identified as D-002, exhausting at one (1) stack identified as SV-179, which vents internally.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate [326 IAC 6-3]

The particulate emissions from the emission units listed in the table below shall be limited by the following:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Equipment I.D.	Process Weight Rate (ton/hr)	Allowable Emission Rate (lb/hr)
Sandblast cabinet (EU-260)	0.050	0.551
Sandblasters (EU-284 - EU-287)	0.116	0.97
Shotblaster, degators and key polisher (EU-137, EU-266, EU-267, EU-269, EU-270)	0.099	0.87

D.5.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) The total PM and PM10 emissions shall not exceed 0.551 pounds per hour from the sandblast cabinet system, identified as EU-260, and exhausting through stack SV-160.
- (b) The total PM and PM10 emissions shall each not exceed 2.20 pounds per hour from the sandblasters (EU-284, EU-285, EU-286 and EU-287), all exhausting at one (1) stack identified as SV-175 combined.

- (c) The total PM and PM10 emissions shall each not exceed 0.87 pounds per hour from the shot blaster (EU-137), the 2-inch degater (EU-266), the degater machine (EU-267), the 4-inch degater machine (EU-269), and the two station key polisher, (EU-270) combined, all exhausting at one (1) stack identified as SV-179.

Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and the control devices.

Compliance Determination Requirement

D.5.4 Particulate Matter (PM)

In order to comply with Conditions D.5.1 and D.5.2, air collection system, and fabric filter cartridges, for particulate control shall be in operation and control emissions from the facilities listed in Section D.5 at all times that the facilities listed in Section D.5 are in operation.

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

Insignificant degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6:

- (1) One (1) Safety Kleen Degreaser, identified as EU-294, using less than 145 gallons per 12 month period; and
- (2) One (1) H.D. Degreaser, identified as EU-276, using less than 145 gallons per 12 month period;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.6.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.

- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment, venting to one (1) stack SV-178;
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations:
 - (1) One (1) surface grinder identified as EU-012, utilizing one (1) dust collector for particulate matter control, and exhausting through stack SV-080, which vents internally;
 - (2) One (1) CNC mill identified as EU-274, with a maximum capacity of 0.23 pounds of carbon per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-162, which vents internally;
 - (3) Two (2) EDM mill machines identified as EU-275 and EU-277, constructed in 1998, each with a maximum capacity of 0.06 pounds of carbon per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-163, which vents internally;
 - (4) One (1) OKK CNC milling machine identified as EU-292, constructed in 1979, controlled for particulate matter by one (1) fabric filter cartridge, and exhausting at one (1) stack identified as SV-176, which vents internally;
 - (5) Four (4) surface grinders identified as EU-262 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, all utilizing one (1) fabric filter cartridge unit for particulate matter control, and exhausting through stack SV-161, which vents internally.
- (c) Seven (7) milling machines, each with a maximum capacity of 0.10 pounds of steel per hour;
- (d) One (1) two-head degator, identified as EU-046;
- (e) One (1) surface mill machine identified as EU-025;
- (f) One (1) 400 pound aluminum melt pot with a maximum capacity of melting 225 pounds of aluminum per hour, identified as aluminum melt pot, exhausting internally;
- (g) One (1) abrasive saw, identified as EU-086, constructed in 2001, controlled for particulate matter by one (1) cyclone identified as CU-070, exhausting through one (1) stack identified as SV-062, which vents internally;
- (h) Nineteen (19) miscellaneous belt sanders, grinders, saws, and degaters with particulate matter emissions below 5 pounds per hour;
 - (i) Burr King belt sander (Aero-0275);
 - (ii) Roboform EDM (Aero-0277);
 - (iii) SBL EDM (Aero-0701);
 - (iv) grinder (Aero-0702);
 - (v) Bador grinder (Aero-0273);
 - (vi) band saw (Aero-0250);
 - (vii) Cincinnati grinder (Aero-0445);
 - (viii) Burr King belt sander (Aero-0463);
 - (ix) 9-inch degator (Aero-0422);
 - (x) 9-inch degator (Aero-0422B);
 - (xi) 8-inch degator (Aero-0423);
 - (xii) Burr King belt sander (Aero-0539);
 - (xiii) six station degator (Aero-0424);
 - (xiv) automatic degator (Aero-0444);
 - (xv) 6-inch belt sander (Aero-0704);
 - (xvi) Delta band saw (Aero-0372); and
 - (xvii) three (3) Burr King belt sanders (Aero-0449, Aero-0376, and Aero-0516); and
- (i) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:

one (1) boiler system rated at 3.35 MMBtu per hour, constructed in 1983.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Particulate [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the aluminum melt pot shall not exceed 0.95 pounds per hour when operating at a process weight rate of 0.11 tons per hour.

The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.7.2 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [40 CFR 52 Subpart P][326 IAC 6-3-2]

- (a) Pursuant to 40 CFR 52 Subpart P, particulate matter emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This condition is not federally enforceable.

D.7.3 Particulate Matter (PM) [326 IAC 6-2-3(e)]

Pursuant to 326 IAC 6-2-3(e) (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the boiler system rated at 3.35 MMBtu per hour shall not exceed 0.6 lb/MMBtu heat input.

D.7.4 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) PM and PM10 emissions from the abrasive saw, identified as EU-086, exhausting at one (1) stack identified as SV-060, shall each not exceed 0.55 pounds per hour;
- (b) The total PM and PM10 emissions from the surface grinder, identified as EU-012, the CNC mill, identified as EU-274, the EDM mill machines, identified as EU-275 and EU277, the OKK CNC milling machine, identified as EU-292, and the surface grinders, identified as EU-262 - EU-265, shall each not exceed 1.38 pounds per hour.
- (c) The total PM and PM10 emissions shall each not exceed 0.63 pounds per hour from the two-head degator (EU-046), surface mill (EU-025), and nineteen (19) miscellaneous belt sanders, grinders, saws and degators combined.
- (d) The PM and PM10 emissions shall not exceed 0.21 pounds per hour and 0.20 pounds per hour, respectively, from the one (1) aluminum melt pot.

Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

D.7.5 Secondary Aluminum NESHAP [40 CFR 63, Subpart RRR]

The one (1) aluminum melt pot shall only melt clean charge, customer returns, or internal scrap as defined under 40 CFR 63.1503. Therefore, the requirements of 40 CFR 63, Subpart RRR do not apply.

Compliance Determination Requirement

D.7.6 Particulate Matter (PM)

In order to comply with Conditions D.7.1, D.7.2 and D.7.4, the baghouses, air collection systems, filter cartridges, and dust collectors, for particulate control shall be in operation and control emissions from the facilities listed in Section D.7 at all times that the facilities listed in Section D.7 are in operation.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Aero Metals, Inc.
Source Address: 402 Darlington Street, LaPorte, Indiana 46350
Mailing Address: 402 Darlington Street, LaPorte, Indiana 46350
Part 70 Permit No.: T091-12683-00074

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- 9 Annual Compliance Certification Letter
- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Affidavit (specify) _____
- 9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Aero Metals, Inc.
Source Address: 402 Darlington Street, LaPorte, Indiana 46350
Mailing Address: 402 Darlington Street, LaPorte, Indiana 46350
Part 70 Permit No.: T091-12683-00074

This form consists of 2 pages

Page 1 of 2

- 9** This is an emergency as defined in 326 IAC 2-7-1(12)
- ☐ The Permittee must notify the Office of Air Quality (OAQ), within four **(4)** business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
 - ☐ The Permittee must submit notice in writing or by facsimile within two **(2)** working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency:

Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:_____

Title / Position:_____

Date:_____

Phone:_____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Aero Metals, Inc.
Source Address: 402 Darlington Street, LaPorte, Indiana 46350
Mailing Address: 402 Darlington Street, LaPorte, Indiana 46350
Part 70 Permit No.: T091-12683-00074

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Part 70 Permit

Source Name: Aero Metals, Inc.
Source Location: 402 Darlington Street, LaPorte, Indiana 46350
County: LaPorte
Operation Permit No.: T091-12683-00074
SIC Code: 3324
Permit Reviewer: Linda Quigley/EVP

On July 24, 2003, the Office of Air Quality (OAQ) had a notice published in LaPorte Herald - Argus, LaPorte, Indiana, stating that Aero Metals, Inc. had applied for a Part 70 Permit to operate a stationary steel/brass/copper/aluminum investment casting operation. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On August 5, 2003, Aero Metals, Inc. submitted comments on the proposed Part 70 Permit. The summary of the comments and corresponding responses is as follows (bolded language has been added and the language with a line through it has been deleted):

Comment 1

The amount of metal melted in each furnace is dependent on the size of the crucible. The following are maximum capacities of each furnace based on maximum crucible size.

- (a) Six (6) electric induction melting furnaces with a total rating of ~~7,300~~ **4,600** pounds metal (steel/brass/copper) per hour:
 - (1) Two (2) **750 pound** electric induction melting furnaces individually ~~rated at 730~~ **capable of processing 600 pounds** of beryllium containing metal per hour ~~each~~, identified as EU-007 and EU-008, and constructed in 1979, and two (2) **1,460 pound** electric induction melting furnaces individually ~~rated at 1,460 pounds~~ **capable of processing 900 pounds** of beryllium containing metal per hour ~~each~~, identified as EU-009 and EU-010 and constructed in July of 1998, all controlled for particulate matter by one (1) cyclone, exhausting at one (1) stack identified as SV-007; and
 - (2) Two (2) **1,460 pound** electric induction melting furnaces individually ~~rated at 1,460~~ **capable of processing 800** pounds of non-beryllium containing metal per hour ~~each~~ and identified as EU-058 and EU-059, constructed in March of 1998, with particulate matter controlled by one (1) cyclone, and exhausting at one (1) stack identified as SV-021.

Response 1

The furnace descriptions have been revised based on the amount of metal each furnace is capable of processing. The following changes have been made as a result of this comment:

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

Aero East:

- (a) Six (6) electric induction melting furnaces with a total rating of ~~7,300~~ **4,600** pounds metal (steel/brass/copper) per hour:
 - (1) Two (2) **750 pound** electric induction melting furnaces ~~individually rated at 730~~ **capable of processing 600 pounds** of beryllium containing metal per hour **each**, identified as EU-007 and EU-008, and constructed in 1979, and two (2) **1,460 pound** electric induction melting furnaces ~~individually rated at 1,460 pounds~~ **capable of processing 900 pounds** of beryllium containing metal per hour **each**, identified as EU-009 and EU-010 and constructed in July of 1998, all controlled for particulate matter by one (1) cyclone, exhausting at one (1) stack identified as SV-007; and
 - (2) Two (2) **1,460 pound** electric induction melting furnaces ~~individually rated at 1,460~~ **capable of processing 800** pounds of non-beryllium containing metal per hour **each** and identified as EU-058 and EU-059, constructed in March of 1998, with particulate matter controlled by one (1) cyclone, and exhausting at one (1) stack identified as SV-021.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) Six (6) electric induction melting furnaces with a total rating of ~~7,300~~ **4,600** pounds metal (steel/brass/copper) per hour:
 - (1) Two (2) **750 pound** electric induction melting furnaces ~~individually rated at 730~~ **capable of processing 600 pounds** of beryllium containing metal per hour **each**, identified as EU-007 and EU-008, and constructed in 1979, and two (2) **1,460 pound** electric induction melting furnaces ~~individually rated at 1,460 pounds~~ **capable of processing 900 pounds** of beryllium containing metal per hour **each**, identified as EU-009 and EU-010 and constructed in July of 1998, all controlled for particulate matter by one (1) cyclone, exhausting at one (1) stack identified as SV-007; and
 - (2) Two (2) **1,460 pound** electric induction melting furnaces ~~individually rated at 1,460~~ **capable of processing 800** pounds of non-beryllium containing metal per hour **each** and identified as EU-058 and EU-059, constructed in March of 1998, with particulate matter controlled by one (1) cyclone, and exhausting at one (1) stack identified as SV-021.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Aero Metals, Inc.
LaPorte, Indiana
Permit Reviewer: Linda Quigley/EVP

Page 3 of 29
OP No. T091-12683-00074

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the emission units listed in the table below shall be limited by the following:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Equipment I.D.	Process Weight Rate (ton/hr)	Allowable Emission Rate (lb/hr)
Induction Furnace (EU-007)	0.365 0.300	40.82 8.46
Induction Furnace (EU-008)	0.365 0.300	
Induction Furnace (EU-009)	0.730 0.450	
Induction Furnace (EU-010)	0.730 0.450	
Induction Furnace (EU-058)	0.730 0.400	6.64 4.44
Induction Furnace (EU-059)	0.730 0.400	

D.1.2 Prevention of Significant Deterioration [326 IAC 2-2]

- This source shall not melt any post-consumer scrap materials in any of the furnaces, identified as EU-007 through EU-010, EU058 and EU059. Only bars, billets, and in-house returns shall be melted in any of the furnaces. The source shall not engage in demagging, refining, or fluxing. Therefore, this source is not considered a secondary metal production facility and is not one of the 28 listed source categories.
- PM emissions from the induction furnaces, identified as EU-007 - EU-010, exhausting to stack SV-007, shall not exceed ~~40.82~~ **8.46** pounds per hour.
- PM emissions from the induction furnaces, identified as EU-058 and EU-059, exhausting to stack SV-021, shall not exceed ~~6.64~~ **4.44** pounds per hour.
- PM10 emissions from the induction furnaces, identified as EU-007 - EU-010, exhausting to stack SV-007, shall not exceed 7.66 pounds per hour.
- PM10 emissions from the induction furnaces, identified as EU-058 and EU-059, exhausting to stack SV-021, shall not exceed 5.11 pounds per hour.

Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and are part of the record regarding this permit decision. The information relating to the Induction Furnaces on the Potential to Emit After Issuance Table for this source

Aero Metals, Inc.
LaPorte, Indiana
Permit Reviewer: Linda Quigley/EVP
is as follows:

Page 5 of 29
OP No. T091-12683-00074

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 operating permit.

Process/facility	Potential to Emit (tons/year)							
	PM	PM-10	SO ₂	VOC	CO	NO _x	Single HAP	Total HAPs
Electric Induction Furnaces (SV-007)	47.39 ² 37.05	33.57 ⁴	--	--	--	--	0.004 Beryllium ³	0.004 Beryllium ³
Electric Induction Furnaces (SV-021)	29.08 ² 19.45	22.38 ⁴	--	--	--	--	0.80 ⁵	0.80 ⁵
Total Emissions	249.02 229.05	228.82	1.27	9.76	5.77	7.70	0.80	1.60

1. Uncontrolled potential to emit.
2. Based on 326 IAC 6-3-2 allowable.
3. Beryllium limit based on 40 CFR 61, Subpart C.
4. Controlled potential to emit.
5. Limited lead emissions is based on controlled emissions; 0.80 tpy of lead is from all furnaces exhausting to stacks SV-007 and SV-021.

Note: PM-10 emissions are allowable emissions to render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

See Addendum to Appendix A, page 2 of 18, for revised emission calculations.

Comment 2

The emission units in items (c), (d), and (e) exhaust internally and do not have stack/vent designations. In addition, in item (e), the one (1) fluidized sand bed identified as EU-051 should be identified as EU-088, the one (1) silica sand rain fall sander identified as EU-110 should be identified as EU-107. In item (d) the one (1) silica sand rain fall sander identified as EU-107 should be identified as EU-111 and should be referred to as "rainfall/fluidized bed sander". Subsequently, item (f) can be removed.

Response 2

The stack/vent designations have been removed from items (c), (d), and (e) since these units vent inside the building. Correct facility identifications have been inserted. Item (f) has been removed. The following changes have been made as a result of this comment:

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (c) Five (5) friction saws identified as EU-033, EU-035, EU-036, EU-037, and EU-133, each with a maximum capacity of processing 0.98 tons of steel per hour, controlled for particulate matter by five (5) dust collectors, **which vent internally** ~~each exhausting through individual stacks respectively identified as SV-084, SV-085, SV-083, SV-082, and SV-081;~~

Aero Metals, Inc.
LaPorte, Indiana
Permit Reviewer: Linda Quigley/EVP

Page 7 of 29
OP No. T091-12683-00074

- (d) Two (2) silica sand rain fall sanders identified as EU-049 and EU-050, one (1) silica sand rain fall/ **fluidized bed** sander identified as ~~EU-107~~ **EU-111**, and one (1) Zircon mix tank identified as EU-131, all constructed in 1979, with a total maximum capacity of processing 0.084 tons of steel per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-1, **which vents internally** ~~exhausting at one (1) stack identified as SV-017;~~
- (e) One (1) fluidized sand bed identified as ~~EU-051~~ **EU-088**, one (1) silica sand rain fall sander identified as ~~EU-110~~ **EU-107**, each constructed in 1979, and one (1) rain fall sander/fluidized bed identified as EU-087, constructed in 2001, with a total maximum capacity of processing 0.042 tons of steel per hour, controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, **which vents internally, exhausting through one (1) stack identified as SV-016;**
- ~~(f) One (1) rain fall sander identified as EU-088, constructed in 2001, with a maximum capacity of processing 0.021 tons of steel per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-3, exhausting through one (1) stack identified as SV-015;~~
- ~~(g)~~(f) Eight (8) natural gas fired ovens, for removing wax from metal, each rated at 0.55 million British thermal units (MMBtu) per hour, identified as EU-002, EU-003, EU-004, EU-005, EU-060, EU-061, EU-084, and EU-085, each with a maximum capacity of processing 0.46 tons of steel per hour, and each exhausting through individual stacks respectively identified as SV-002, SV-003, SV-004, SV-005, SV-022, SV-023, SV-046 and SV-047;
- ~~(h)~~(g) One (1) sodium hydroxide solution (caustic) metal parts cleaning unit rated at 4900 pounds steel castings per hour and identified as EU-001, constructed in 1979, with a wet scrubber for caustic fume control identified as CU-001, and exhausting at one (1) stack identified as SV-001.

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero East

- (a) Five (5) friction saws identified as EU-033, EU-035, EU-036, EU-037, and EU-133, each with a maximum capacity of processing 0.98 tons of steel per hour, controlled for particulate matter by five (5) dust collectors, **which vent internally** ~~each exhausting through individual stacks respectively identified as SV-084, SV-085, SV-083, SV-082, and SV-081;~~
- (b) Two (2) silica sand rain fall sanders identified as EU-049 and EU-050, one (1) silica sand rain fall/ **fluidized bed** sander identified as ~~EU-107~~ **EU-111**, and one (1) Zircon mix tank identified as EU-131, all constructed in 1979, with a total maximum capacity of processing 0.084 tons of steel per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-1, **which vents internally** ~~exhausting at one (1) stack identified as SV-017;~~
- (c) One (1) fluidized sand bed identified as ~~EU-051~~ **EU-088**, one (1) silica sand rain fall sander identified as ~~EU-110~~ **EU-107**, each constructed in 1979, and one (1) rain fall sander/fluidized bed identified as EU-087, constructed in 2001, with a total maximum capacity of processing 0.042 tons of steel per hour, controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, **which vents internally** ~~exhausting through one (1) stack identified as SV-016;~~

(d) ~~One (1) rain fall sander identified as EU-088, constructed in 2001, with a maximum capacity of processing 0.021 tons of steel per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-3, exhausting through one (1) stack identified as SV-015.~~

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate [326 IAC 6-3]

The particulate emissions from the emission units listed in the table below shall be limited by the following:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Equipment I.D.	Process Weight Rate (ton/hr)	Allowable Emission Rate (lb/hr)
Friction Saws (EU-033, EU-035, EU-036, EU-037, and EU-133)	0.98 each	4.04 each
Rainfall sanders (EU-049, EU-050, EU- 107 111), Zircon mix tank (EU-131)	0.084	0.78
Fluidized sand bed (EU- 054 088), rainfall/ fluidized bed sander (EU- 110 107), rainfall sander/fluidized bed (EU-087)	0.042	0.49
Rainfall sander (EU-088)	0.021	0.551

D.3.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- The PM and PM-10 emissions shall each not exceed 4.04 pounds per hour from each of the Friction Saws (EU-033, EU-035, EU-036, EU-037, and EU-133), ~~exhausting through individual stacks identified as SV-084, SV-085, SV-083, SV-082, and SV-081, respectively.~~
- The total PM and PM-10 emissions shall each not exceed 0.78 pounds per hour from the Silica Sand Rainfall Units (EU-049 and EU-050), the Silica Rainfall/ **Fluidized Bed** Sander (EU-~~107~~**111**), and the Zircon Mix Tank (EU-131) combined, ~~which exhaust through stack SV-017.~~

- (c) The total PM and PM-10 emissions shall each not exceed 1.10 pounds per hour from the Fluidized Sand Bed (EU-054 ~~088~~), the Rainfall Sander/Fluidized Bed (EU-087) and the Silica Rainfall Sander (EU-110 ~~107~~) combined, ~~which exhaust through stack SV-016.~~
- ~~(d) PM and PM-10 emissions shall each not exceed 0.55 pounds per hour from the Rainfall Sander (EU-088), which exhausts through stack SV-015.~~

Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

Comment 3

The wax burn out ovens remove wax from sand molds, not from metal. Please revise accordingly.

Response 3

Section A.3(g), now A.3(f), and Section D.4 are revised as follows:

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(15)]
This stationary source consists of the following emission units and pollution control devices:

- (f) Eight (8) natural gas fired ovens, for removing wax from ~~metal~~ **sand molds**, each rated at 0.55 million British thermal units (MMBtu) per hour, identified as EU-002, EU-003, EU-004, EU-005, EU-060, EU-061, EU-084, and EU-085, each with a maximum capacity of processing 0.46 tons of ~~steel~~ **sand molds** per hour, and each exhausting through individual stacks respectively identified as SV-002, SV-003, SV-004, SV-005, SV-022, SV-023, SV-046 and SV-047;

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero East

- (a) Eight (8) natural gas fired ovens, for removing wax from ~~metal~~ **sand molds**, each rated at 0.55 million British thermal units (MMBtu) per hour, identified as EU-002, EU-003, EU-004, EU-005, EU-060, EU-061, EU-084, and EU-085, each with a maximum capacity of processing 0.46 tons of ~~steel~~ **sand molds** per hour, and each exhausting through individual stacks respectively identified as SV-002, SV-003, SV-004, SV-005, SV-022, SV-023, SV-046 and SV-047.
- (b) One (1) sodium hydroxide solution (caustic) metal parts cleaning unit rated at 4900 pounds steel castings per hour and identified as EU-001, constructed in 1979, with a wet scrubber for caustic fume control identified as CU-001, and exhausting at one (1) stack identified as SV-001.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Comment 4

The two (2) solvent wash tanks identified as EU-276 and EU-294, listed under Section A.3 - Aero West item (a), are already listed in A.4 (a) (2). Please remove from Section A.3.

Response 4

The following change has been made as a result of this comment:

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(15)]
This stationary source consists of the following emission units and pollution control devices:

Aero West:

- ~~(a)~~ ~~Two (2) solvent wash tanks identified as EU-276 and EU-294, and constructed in 1979;~~
- ~~(b)~~(a) One (1) sandblast cabinet system identified as EU-260, constructed in 1995, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-160, which vents internally;
- ~~(c)~~(b) Three (3) sandblasters identified as EU-285, EU-286 and EU-287, constructed in 1979, and one (1) sandblaster identified as EU-284, constructed in 2000, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-175; and
- ~~(d)~~(c) One (1) shot blaster identified as EU-137, constructed in 2001, one (1) 2-inch degater identified as EU-266, one (1) degater machine identified as EU-267, one (1) 4-inch degater machine identified as EU-269, and one (1) two station key polisher, identified as EU270, with a total maximum capacity of processing 0.099 tons of steel per hour, all controlled for particulate matter by an internal micro air collection system (fabric filters), identified as D-002, exhausting at one (1) stack identified as SV-179, which vents internally;

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

- (a) This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):
 - (1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (i) one (1) boiler system rated at 3.35 MMBtu per hour, constructed in 1983 [326 IAC 6-2];
 - (2) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 [326 IAC 8-3-2][326 IAC 8-3-5];
 - (i) One (1) Safety Kleen Degreaser, **identified as EU-294**, using less than 145 gallons per 12 month period; and
 - (ii) One (1) H.D. Degreaser, **identified as EU-276**, using less than 145 gallons per 12 month period;

Comment 5

The three (3) sandblasters listed in A.3, Aero West item (c), utilize an internal exhaust fabric filter cartridge system. Please make the following changes:

- (c) Three (3) sandblasters identified as EU-285, EU-286 and EU-287, constructed in 1979, and one (1) sandblaster identified as EU-284, constructed in 2000, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) **internal exhaust** fabric filter cartridge **system** for particulate matter control, ~~and~~ exhausting through stack SV-175; and

Response 5

The following descriptive changes have been made to A.3, Aero West item (c), now changed to item (b), and the Facility Description of D.5:

- A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(15)]
This stationary source consists of the following emission units and pollution control devices:

Aero West:

- (b) Three (3) sandblasters identified as EU-285, EU-286 and EU-287, constructed in 1979, and one (1) sandblaster identified as EU-284, constructed in 2000, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge **system** for particulate matter control, and exhausting through stack SV-175, **which vents internally**; and

SECTION D.5

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero West

- (b) Three (3) sandblasters identified as EU-285, EU-286 and EU-287, constructed in 1979, and one (1) sandblaster identified as EU-284, constructed in 2000, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge **system** for particulate matter control, and exhausting through stack SV-175, **which vents internally**; and

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Comment 6

The one (1) surface grinder, identified as EU-012, listed in item (4)(i) under insignificant activities, vents internally. The Burr King belt sander and Roboform EDM, listed in items (8)(i) and (8)(ii) should be correctly identified as Aero-0275 and Aero-0277, respectively.

Response 6

The following changes have been made as a result of this comment:

- A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

- (a) This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (4) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations [326 IAC 6-3-2]:
 - (i) One (1) surface grinder identified as EU-012, utilizing one (1) dust collector for particulate matter control, and exhausting through stack SV-080, **which vents internally**;
- (8) Nineteen (19) miscellaneous belt sanders, grinders, saws, and degaters with particulate matter emissions below 5 pounds per hour [326 IAC 6-3-2]:
 - (i) Burr King belt sander (Aero-~~0703~~ **0275**);
 - (ii) Roboform EDM (Aero-~~0700~~ **0277**);
 - (iii) SBL EDM (Aero-0701);
 - (iv) grinder (Aero-0702);
 - (v) Bador grinder (Aero-0273);
 - (vi) band saw (Aero-0250);
 - (vii) Cincinnati grinder (Aero-0445);
 - (viii) Burr King belt sander (Aero-0463);
 - (ix) 9-inch degator (Aero-0422);
 - (x) 9-inch degator (Aero-0422B);
 - (xi) 8-inch degator (Aero-0423);
 - (xii) Burr King belt sander (Aero-0539);
 - (xiii) six station degator (Aero-0424);
 - (xiv) automatic degator (Aero-0444);
 - (xv) 6-inch belt sander (Aero-0704);
 - (xvi) Delta band saw (Aero-0372); and
 - (xvii) three (3) Burr King belt sanders (Aero-0449, Aero-0376, and Aero-0516);

Comment 7

The aluminum melt pot listed under insignificant activities does not exhaust through a cyclone. In addition the description should be revised as follows:

One (1) **400 pound internal exhaust** aluminum melt pot with a maximum capacity of melting 225 pounds of aluminum per hour, identified as aluminum melt pot.

The abrasive saw, identified as EU-086, exhausts internally. The cyclone should be identified as CU-070, not CU-069 and the stack/vent designation should be SV-062.

Response 7

The following changes have been made to Section A.4 and D.7 as a result of this comment:

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

-
- (a) This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (9) One (1) **400 pound** aluminum melt pot with a maximum capacity of melting 225 pounds of aluminum per hour, identified as aluminum melt pot, **exhausting internally controlled for particulate matter by one (1) cyclone, exhausting to one (1) stack identified as SV-061** [326 IAC 6-3-2]; and
- (10) One (1) abrasive saw, identified as EU-086, constructed in 2001, controlled for particulate matter by one (1) cyclone identified as ~~EU-069~~ **CU-070**, exhausting through one (1) stack identified as ~~SV-060~~ **SV-062, which vents internally** [326 IAC 6-3-2].

The emission calculations have also been revised to reflect that there are no controls on the melt pot. See Addendum to Appendix A, page 2 of 18.

Comment 8

The following do not need to be listed under (b) of insignificant activities:

- (2) Combustion source flame safety purging on startup;
- (3) The following VOC and HAP storage containers:
 - (i) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons;
 - (ii) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (4) Equipment used exclusively for the following:
 - (i) Packaging lubricants and greases;
 - (ii) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases;
- (13) Stationary fire pumps;
- (19) Twenty two (22) 48-inch ceiling fans;
- (20) One (1) 12-inch gas food grill vent (closed unit);

In addition please make the following changes:

- (14) Cleaners and solvents **operations owned and serviced by an outside vendor** characterized as follows:
 - (i) Having a vapor pressure equal to or less than 2kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or;
 - (ii) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;
- (23) One water vapor vent exhaust identified as ~~SV-088~~ **SV-166**;

Aero Metals, Inc.
LaPorte, Indiana
Permit Reviewer: Linda Quigley/EVP

Page 15 of 29
OP No. T091-12683-00074

(24) One (1) ~~aluminum~~ water blaster;

Response 8

The following changes have been made as a result of this comment:

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

- (b) The following insignificant activities are not specifically regulated, but listed herein per the source's request:
- (1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (i) one (1) furnace rated at 0.58 MMBtu per hour;
 - (ii) four (4) furnaces each rated at 0.075 MMBtu per hour;
 - (iii) twelve (12) heaters each rated at 0.10 MMBtu per hour;
 - (iv) six (6) natural gas-fired heaters identified as EU-251 through EU-256, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-151 through SV-156, respectively;
 - (v) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;
 - (vi) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.08 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively.
 - ~~(2) Combustion source flame safety purging on startup;~~
 - ~~(3) The following VOC and HAP storage containers:~~
 - ~~(i) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons;~~
 - ~~(ii) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;~~
 - ~~(4) Equipment used exclusively for the following:~~
 - ~~(i) Packaging lubricants and greases;~~
 - ~~(ii) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases;~~
 - (5)(2) Machining where an aqueous cutting coolant continuously floods the machining interface;
 - (6)(3) Closed loop heating and cooling systems;

- ~~(7)~~(4) Any operation using aqueous solutions containing less than 1 percent by weight of VOCs excluding HAPs;
- ~~(8)~~(5) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- ~~(9)~~(6) Heat exchanger cleaning and repair;
- ~~(10)~~(7) Paved and unpaved roads and parking lots with public access;
- ~~(11)~~(8) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process;
- ~~(12)~~(9) Blowdown for any of the following: sight glass; boiler; compressors; pump; and cooling tower;
- ~~(13)~~ — Stationary fire pumps;
- ~~(14)~~(10) Cleaners and solvents **operations owned and serviced by an outside vendor**, characterized as follows:
 - (i) Having a vapor pressure equal to or less than 2kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or;
 - (ii) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;
- ~~(15)~~(11) Any unit emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:
 - (i) Trichloroethylene used for smoothing flaw marks on wax molds;
- ~~(16)~~(12) One (1) solvent based wax pattern cleaning operation utilizing Nalco Wax Cleaner or equivalent;
- ~~(17)~~(13) Twelve (12) work benches using trichloroethylene for wax repair;
- ~~(18)~~(14) Twelve (12) heat torches to melt wax;
- ~~(19)~~ — Twenty two (22) 48-inch ceiling fans;
- ~~(20)~~ — One (1) 12-inch gas food grill vent (closed unit);
- ~~(21)~~(15) Twenty-four (24) non-volatiles/non-particulate matter emitting injection molders;
- ~~(22)~~(16) One (1) steam autoclave wax melter;
- ~~(23)~~(17) One water vapor vent exhaust identified as ~~SV-088~~ **SV-166**;
- ~~(24)~~(18) One (1) ~~aluminum~~ water blaster;.

Comment 9

Condition D.1.2 - Please add *plate* and *round* to the listed material that can be melted in the furnaces.

Response 9

The following changes have been made as a result of this comment:

D.1.2 Prevention of Significant Deterioration [326 IAC 2-2]

- (a) This source shall not melt any post-consumer scrap materials in any of the furnaces, identified as EU-007 through EU-010, EU058 and EU059. Only bars, billets, **plate, round,** and in-house returns shall be melted in any of the furnaces. The source shall not engage in demagging, refining, or fluxing. Therefore, this source is not considered a secondary metal production facility and is not one of the 28 listed source categories.
- (b) PM emissions from the induction furnaces, identified as EU-007 - EU-010, exhausting to stack SV-007, shall not exceed 10.82 pounds per hour.

Comment 10

Condition D.2.4 - This process was stack tested in January of 2001. Please modify this condition to require testing no later than five (5) years after January 10, 2001.

Response 10

The stack test performed at the one (1) stack, identified as SV-048, on January 10, 2001 did not include all of the equipment that currently exhausts to this stack. In order for compliance to be demonstrated with the applicable emission limits set forth in the permit, testing will be required with the new equipment configuration within 180 days of the issuance of this permit. Therefore, there is no change as a result of this comment.

Comment 11

Condition D.2.9 and D.2.10 - The pressure drop reading for the cartridge system should be 0.5 - 10.0 inches of water based on information provided by the manufacturer. In addition, the air collection system is a series of cartridges. Please change "bags/filters" to "the cartridge system."

Response 11

After reviewing the information provided by the manufacturer, IDEM, OAQ agrees that the pressure drop range can be changed to 0.5 - 10 inches of water. The following change has been made as a result of this comment:

D.2.9 Parametric Monitoring

The Permittee shall record the total static pressure drop across the air collection system used in conjunction with the shotblasting, knock out machines, and sandblasting facilities, at least once per shift when the shotblasting, knock out machines, and sandblasting facilities are in operation. When for any one reading, the pressure drop across the air collection system is outside the normal range of ~~2.0 and 8.0~~ **0.5 and 10.0** inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan -Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.2.10 Air Collection System Inspections

An inspection shall be performed each calendar quarter of ~~all bags/filters~~ **the cartridge system** controlling the shotblasting, knock out machines, and sandblasting facilities when venting to the atmosphere. An air collection system inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective ~~bags/filters~~ **cartridges** shall be replaced.

Comment 12

Condition D.3.6 - Please add the following in bold: The Permittee shall record the total static pressure drop across the each of the dust collectors used in conjunction with the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed, at least once per shift when the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed are in operation **and when venting to the atmosphere**. When for any one reading, the pressure drop across any dust collector is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

Response 12

Since parametric monitoring is only required when venting to the atmosphere, Condition D.3.6 has been changed as follows:

D.3.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the each of the dust collectors used in conjunction with the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed, at least once per shift when the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed are in operation **and venting to the atmosphere**. When for any one reading, the pressure drop across any dust collector is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

Comment 13

The wax burn out ovens were tested in 1995 and found to be in compliance with the applicable limits. Initial compliance has been demonstrated and it is not necessary to further test these units.

Aero Metals, Inc.
LaPorte, Indiana
Permit Reviewer: Linda Quigley/EVP

Page 21 of 29
OP No. T091-12683-00074

Response 13

The test conducted in 1995 does not provide enough data to develop an emission factor to determine the potential to emit of these units. The units need to be re-tested with the known maximum throughput of molds to develop a pound of PM per ton of mold emission factor. In addition, the test conducted in 1995 only tested for PM. In order to demonstrate compliance with applicable PSD limits included in Condition D.4.2, PM10 must also be tested. There is no change to the permit as a result of this comment.

Comment 14

The following units have been incorrectly identified as unpermitted facilities in the TSD:

The one (1) abrasive saw (EU-086). This unit was formerly identified as EU-261. A new identification number was assigned when the unit was relocated. The one (1) rainfall sander (EU-087) was a replacement for EU-053. The one (1) rainfall sander (EU-088) was a replacement for EU-051.

Response 14

The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and are part of the record regarding this permit decision.

Aero Metals often moves equipment to different locations in the plant and changes the identification number of that equipment. IDEM, OAQ recommends that the identification of permitted units remain unchanged. However, should Aero Metals wish to change the identification numbers on permitted units, it would be beneficial to submit a request for an administrative amendment to incorporate a descriptive change to the Title V permit. This will avoid future confusion and possible enforcement referrals for "unpermitted units". The abrasive saw (EU-086) has been verified to be formerly identified as (EU-261). The rainfall sanders, EU-087 and EU-088, were previously identified as EU-053 and EU-051. These units were given new identifications when the units were modified. The modification to these rainfall sanders involved the installation of a fluidized bed to each unit, and it was assumed that the potential to emit of PM and PM10 had increased as a result of the additional fluidized sand bed air flow to each rainfall sander unit. Such increases the exhaust air flow to the control device and the amount of particulates that will reach the control device. Therefore, a permit revision was required for these modifications to the rainfall sanders.

Upon further review, the OAQ has decided to make the following changes to the Part 70 Permit. Bolded language has been added and the language with a line through it has been deleted.

- 1) A.3 Emission Units and Pollution Control Equipment Summary - Sections (d) and (e): These sections list the maximum processing capacities in tons of steel per hour. There is no steel (or any other metal) present in any of these processes. The following changes have been made:

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

Aero East:

- (d) Two (2) silica sand rain fall sanders identified as EU-049 and EU-050, one (1) silica sand rain fall/fluidized bed sander identified as EU-111, and one (1) Zircon mix tank identified as EU-131, all constructed in 1979, with a total maximum capacity of ~~processing~~ 0.084 tons of ~~steel sand~~ per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-1, which vents internally;
- (e) One (1) fluidized sand bed identified as EU-088, one (1) silica sand rain fall sander identified as EU-107, each constructed in 1979, and one (1) rain fall sander/fluidized bed identified as EU-087, constructed in 2001, with a total maximum capacity of ~~processing~~ 0.042 tons of ~~steel sand~~ per hour, controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, exhausting through one (1) stack identified as SV-016;

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero East

- (b) Two (2) silica sand rain fall sanders identified as EU-049 and EU-050, one (1) silica sand rain fall/fluidized bed sander identified as EU-111, and one (1) Zircon mix tank identified as EU-131, all constructed in 1979, with a total maximum capacity of ~~processing~~ 0.084 tons of ~~steel sand~~ per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-1, which vents internally;
- (c) One (1) fluidized sand bed identified as EU-088, one (1) silica sand rain fall sander identified as EU-107, each constructed in 1979, and one (1) rain fall sander/fluidized bed identified as EU-087, constructed in 2001, with a total maximum capacity of ~~processing~~ 0.042 tons of ~~steel sand~~ per hour, controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, exhausting through one (1) stack identified as SV-016;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

- 2) Condition D.2.2 (Prevention of Significant Deterioration) - The one (1) shotblaster, identified as EU-032, was inadvertently left out. The following change has been made:

D.2.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

The total PM and PM-10 emissions shall each not exceed 2.54 pounds per hour from the Shot Blasters (**EU-032**, EU-034 and EU-041), the ceramic mold knock out machines (EU-038 through EU-040), and the Sandblaster (EU-042) combined, which exhaust through stack SV-048. Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) not applicable.

- 3) Condition D.2.12(c) (Record Keeping Requirements) - The word condition (used twice in the section) should be "conditions". The following changes have been made:

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.12 Record Keeping Requirements

- (a) To document compliance with Condition D.2.6, the Permittee shall maintain records of visible emission notations of the shotblasting, knock out machines, and sandblasting facilities stack exhaust once per shift.
- (b) To document compliance with Condition D.2.9, the Permittee shall maintain once per shift records of the total static pressure drop during normal operation when venting to the atmosphere.
- (c) To document compliance with Conditions D.2.7 and D.2.10, the Permittee shall maintain records of the results of the inspections required under Conditions D.2.7 and D.2.10 and the dates the vents are redirected.
- (d) To document compliance with Condition D.2.5, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

4) Section D.5 - Facility Description - (c) has been corrected as follows:

SECTION D.5

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Aero West

- (c) One (1) shot blaster identified as EU-137, constructed in 2001, one (1) 2-inch degater identified as EU-266, one (1) degater machine identified as EU-267, one (1) 4-inch degater machine identified as EU-269, and one (1) two station key polisher, identified as EU270, **with a total maximum capacity of processing 0.099 tons of steel per hour**, all controlled for particulate matter by an internal micro air collection system (fabric filters), identified as D-002, exhausting at one (1) stack identified as SV-179, which vents internally.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

5) Condition D.2.11 and D.3.8, Broken or Failed Bag Detection have been revised as follows:

D.2.11 Broken or Failed Bag Detection

In the event that a bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. ~~Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B - Emergency Provisions).~~ Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit. **If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.**
- (b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.8 Broken or Failed Dust Collector Detection

In the event that dust collector failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. ~~Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B - Emergency Provisions).~~ Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit. **If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.**

- (b) For single compartment dust collectors, if failure is indicated by a significant drop in the dust collector's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

- 6) Condition B.8, Compliance with Permit Conditions has been moved to the cover page of the permit. Subsequent B Section items have been renumbered. The following text has been added to the cover page:

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

- 7) Condition C.15(b)(3), Compliance Response Plan - Preparation, Implementation, Records, and Reports - This notification requirement has been modified to apply only to situations where the emissions unit will continue to operate for an extended time while the compliance monitoring parameter is out of range. It is intended to provide the OAQ an opportunity to assess the situation and determine whether any additional actions are necessary to demonstrate compliance with applicable requirements.

C.15 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5][326 IAC 2-7-6]

- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, **and it will be 10 days or more until the unit or device will be shut down, then the permittee shall promptly notify** the IDEM, OAQ ~~shall be promptly notified~~ of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of

notification.

- 8) The facility description of Section D.7(h) has been revised to include the list of the nineteen (19) miscellaneous belt sanders, grinders, saws, and degaters with particulate matter emissions below 5 pounds per hour.

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment, venting to one (1) stack SV-178;
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations:
 - (1) One (1) surface grinder identified as EU-012, utilizing one (1) dust collector for particulate matter control, and exhausting through stack SV-080, which vents internally;
 - (2) One (1) CNC mill identified as EU-274, with a maximum capacity of 0.23 pounds of carbon per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-162, which vents internally;
 - (3) Two (2) EDM mill machines identified as EU-275 and EU-277, constructed in 1998, each with a maximum capacity of 0.06 pounds of carbon per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-163, which vents internally;
 - (4) One (1) OKK CNC milling machine identified as EU-292, constructed in 1979, controlled for particulate matter by one (1) fabric filter cartridge, and exhausting at one (1) stack identified as SV-176, which vents internally;
 - (5) Four (4) surface grinders identified as EU-262 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, all utilizing one (1) fabric filter cartridge unit for particulate matter control, and exhausting through stack SV-161, which vents internally.
- (c) Seven (7) milling machines, each with a maximum capacity of 0.10 pounds of steel per hour;
- (d) One (1) two-head degator, identified as EU-046;
- (e) One (1) surface mill machine identified as EU-025;
- (f) One (1) 400 pound aluminum melt pot with a maximum capacity of melting 225 pounds of aluminum per hour, identified as aluminum melt pot, exhausting internally;
- (g) One (1) abrasive saw, identified as EU-086, constructed in 2001, controlled for particulate matter by one (1) cyclone identified as CU-070, exhausting through one (1) stack identified as SV-062, which vents internally;
- (h) Nineteen (19) miscellaneous belt sanders, grinders, saws, and degaters with particulate matter emissions below 5 pounds per hour;
 - (i) Burr King belt sander (Aero-0275);
 - (ii) Roboform EDM (Aero-0277);
 - (iii) SBL EDM (Aero-0701);
 - (iv) grinder (Aero-0702);
 - (v) Bador grinder (Aero-0273);
 - (vi) band saw (Aero-0250);
 - (vii) Cincinnati grinder (Aero-0445);
 - (viii) Burr King belt sander (Aero-0463);
 - (ix) 9-inch degator (Aero-0422);
 - (x) 9-inch degator (Aero-0422B);
 - (xi) 8-inch degator (Aero-0423);

- (xii) Burr King belt sander (Aero-0539);
 - (xiii) six station degator (Aero-0424);
 - (xiv) automatic degator (Aero-0444);
 - (xv) 6-inch belt sander (Aero-0704);
 - (xvi) Delta band saw (Aero-0372); and
 - (xvii) three (3) Burr King belt sanders (Aero-0449, Aero-0376, and Aero-0516); and
 - (i) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - one (1) boiler system rated at 3.35 MMBtu per hour, constructed in 1983.
- (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

- 9) Conditions D.1.8(e), D.1.10, D.2.6(e), D.2.8, D.2.9, D.3.5(e) and D.3.6: The sentence "...shall be considered a violation of this permit", has been changed to "...shall be considered a deviation from this permit".

D.1.8 Visible Emissions Notations

- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a ~~violation of~~ **deviation from** this permit.

D.1.10 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a ~~violation of~~ **deviation from** this permit.

D.2.6 Visible Emissions Notations

- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a ~~violation of~~ **deviation from** this permit.

D.2.8 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a ~~violation of~~ **deviation from** this permit.

D.2.9 Parametric Monitoring

The Permittee shall record the total static pressure drop across the air collection system used in conjunction with the shotblasting, knock out machines, and sandblasting facilities, at least once per shift when the shotblasting, knock out machines, and sandblasting facilities are in operation. When for any one reading, the pressure drop across the air collection system is outside the normal range of 0.5 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan -Preparation, Implementation, Records, and Reports, shall be considered a ~~violation of~~ **deviation from** this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.3.5 Visible Emissions Notations

- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a ~~violation of~~ **deviation from** this permit.

D.3.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the each of the dust collectors used in conjunction with the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed, at least once per shift when the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed are in operation and venting to the atmosphere. When for any one reading, the pressure drop across any dust collector is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a ~~violation of~~ **deviation from** this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit

Source Background and Description

Source Name: Aero Metals, Inc.
Source Location: 402 Darlington Street, LaPorte, Indiana 46350
County: LaPorte
SIC Code: 3324
Operation Permit No.: T091-12683-00074
Permit Reviewer: Linda Quigley / EVP

The Office of Air Quality (OAQ) has reviewed a Part 70 permit application from Aero Metals, Inc. relating to the operation of a steel/brass/copper/aluminum investment casting operation. This Part 70 permit contains provisions intended to satisfy the requirements of the construction permit rules.

Source Definition

This steel/brass/copper/aluminum investment casting operation consists of two (2) plants:

- (a) Aero East is located at 402 Darlington Street, LaPorte, IN 46350; and
- (b) Aero West is located at 1201 E. Lincolnway, LaPorte, Indiana 46350.

Since the two (2) plants are located on contiguous properties, have the same SIC codes and are owned by one (1) company, they will be considered one (1) source.

Permitted Emission Units and Pollution Control Equipment

Aero East consists of the following permitted emission units and pollution control devices:

- (a) Six (6) electric induction melting furnaces with a total rating of 7,300 pounds metal (steel/brass/copper) per hour:
 - (1) Two (2) electric induction melting furnaces individually rated at 730 pounds of beryllium containing metal per hour, identified as EU-007 and EU-008, and constructed in 1979, and two (2) electric induction melting furnaces individually rated at 1,460 pounds of beryllium containing metal per hour, identified as EU-009 and EU-010 and constructed in July of 1998, all controlled for particulate matter by one (1) cyclone, exhausting at one (1) stack identified as SV-007; and
 - (2) Two (2) electric induction melting furnaces individually rated at 1,460 pounds of non-beryllium containing metal per hour and identified as EU-058 and EU-059, constructed in March of 1998, with particulate matter controlled by one (1)

cyclone, and exhausting at one (1) stack identified as SV-021;

- (b) Three (3) shot blasters identified as EU-032, EU-034, and EU-041, three (3) ceramic mold knock out machines identified as EU-038, EU-039, and EU-040, and one (1) sandblaster identified as EU-042, all constructed in 1979, with a total maximum capacity of processing 0.49 tons of steel per hour, and all controlled for particulate matter by three (3) cyclones identified as CU-056, CU-057, and CU-058 respectively, and one (1) air collection system (fabric filters), identified as D-003, exhausting at one (1) stack identified as SV-048;
- (c) Five (5) friction saws identified as EU-033, EU-035, EU-036, EU-037, and EU-133, each with a maximum capacity of processing 0.98 tons of steel per hour, controlled for particulate matter by five (5) dust collectors, each exhausting through individual stacks identified as SV-084, SV-085, SV-083, SV-082, and SV-081, respectively;
- (d) Two (2) silica sand rain fall sanders identified as EU-049 and EU-050, one (1) silica sand rain fall sander identified as EU-107, and one (1) Zircon mix tank identified as EU-131, all constructed in 1979, with a total maximum capacity of processing 0.084 tons of steel per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-1, exhausting at one (1) stack identified as SV-017;
- (e) One (1) fluidized sand bed identified as EU-051, and one (1) silica sand rain fall sander identified as EU-110, each constructed in 1979, with a total maximum capacity of processing 0.028 tons of steel per hour, controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, exhausting through one (1) stack identified as SV-016;
- (f) Eight (8) natural gas fired ovens, for removing wax from metal, each rated at 0.55 million British thermal units (MMBtu) per hour, identified as EU-002, EU-003, EU-004, EU-005, EU-060, EU-061, EU-084, and EU-085, each with a maximum capacity of processing 0.46 tons of steel per hour, and each exhausting through individual stacks respectively identified as SV-002, SV-003, SV-004, SV-005, SV-022, SV-023, SV-046 and SV-047; and
- (g) One (1) sodium hydroxide solution (caustic) metal parts cleaning unit rated at 4900 pounds steel castings per hour and identified as EU-001, constructed in 1979, with a wet scrubber for caustic fume control identified as CU-001, and exhausting at one (1) stack identified as SV-001.

Note: Two (2) fluidized sand beds, identified as EU-53 and EU-54 have been removed.

Four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124 and two (2) melt pots identified as EU-119 and EU-120, permitted under FSPR 091-11381-00120, issued on May 12, 2000, have not and will not be constructed.

Aero West consists of the following emission units and pollution control devices:

- (a) Two (2) solvent wash tanks identified as EU-276 and EU-294, constructed in 1979.
- (b) One (1) sandblast cabinet system identified as EU-260, constructed in 1995, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-160, which vents internally;
- (c) Three (3) sandblasters identified as EU-285, EU-286 and EU-287, constructed in 1979, and one (1) sandblaster identified as EU-284, constructed in 2000, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-175; and

- (d) One (1) 2-inch degater identified as EU-266, one (1) degater machine identified as EU-267, one (1) 4-inch degater machine identified as EU-269, and one (1) two station key polisher, identified as EU270, with a total maximum capacity of processing 0.099 tons of steel per hour, all controlled for particulate matter by an internal micro air collection system (fabric filters), identified as D-002, exhausting at one (1) stack identified as SV-179, which vents internally.

Note: One (1) natural gas-fired boiler (for back-up use only) identified as EU-259 has been decommissioned and is physically disconnected.

Unpermitted Emission Units and Pollution Control Equipment

Aero East also consists of the following unpermitted facilities/units:

- (a) One (1) abrasive saw, identified as EU-086, constructed in 2001, controlled for particulate matter by one (1) cyclone identified as CU-069, exhausting through one (1) stack identified as SV-060;
- (b) One (1) rain fall sander/fluidized bed identified as EU-087, constructed in 2001, with a maximum capacity of processing 0.014 tons of steel per hour, controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, exhausting through one (1) stack identified as SV-016;
- (c) One (1) rain fall sander identified as EU-088, constructed in 2001, with a maximum capacity of processing 0.021 tons of steel per hour, and controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-3, exhausting through one (1) stack identified as SV-015.

Aero West also consists of the following unpermitted facilities/units:

- (a) One (1) shot blaster identified as EU-137, constructed in 2001, with a maximum capacity of processing 0.02 tons of steel per hour, controlled for particulate matter by an internal micro air collection system (fabric filters), identified as D-002, exhausting at one (1) stack identified as SV-179.

Note: The one (1) shot blaster identified as EU-137, listed in Aero West item (a), and the remainder of the emissions units listed above (Aero East), all constructed in 2001, were required to have been permitted pursuant to 326 IAC 2-8-11.1(f)(1)(E) (Significant Permit Revision) because the potential to emit of PM and PM-10 is greater than twenty-five (25) tons per year.

Insignificant Activities

Aero Metals also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
- (1) One (1) furnace rated at 0.58 MMBtu per hour;
 - (2) Four (4) furnaces each rated at 0.075 MMBtu per hour;
 - (3) Twelve (12) heaters each rated at 0.10 MMBtu per hour;
 - (4) One (1) boiler system rated at 3.35 MMBtu per hour, constructed in 1983;

- (5) Six (6) natural gas-fired heaters identified as EU-251 through EU-256, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-151 through SV-156, respectively;
- (6) One (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;
- (7) Two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.08 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively.
- (b) Combustion source flame safety purging on startup;
- (c) The following VOC and HAP storage containers:
 - (1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons;
 - (2) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (d) Equipment used exclusively for the following:
 - (1) Packaging lubricants and greases;
 - (2) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases;
- (e) Machining where an aqueous cutting coolant continuously floods the machining interface;
- (f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6;
 - (1) One (1) Safety Kleen Degreaser using less than 145 gallons per 12 month period; and
 - (2) One (1) H.D. Degreaser using less than 145 gallons per 12 month period;
- (g) Cleaners and solvents characterized as follows:
 - (1) Having a vapor pressure equal to or less than 2kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or;
 - (2) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;
- (h) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment, venting to one (1) stack SV-178;
- (i) Closed loop heating and cooling systems;
- (j) Any operation using aqueous solutions containing less than 1 percent by weight of VOCs excluding HAPs;

- (k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (l) Heat exchanger cleaning and repair;
- (m) Paved and unpaved roads and parking lots with public access;
- (n) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process;
- (o) Blowdown for any of the following: sight glass; boiler; compressors; pump; and cooling tower;
- (p) Stationary fire pumps;
- (q) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations:
 - (1) One (1) surface grinder identified as EU-012, utilizing one (1) dust collector for particulate matter control, and exhausting through stack SV-080;
 - (2) One (1) CNC mill identified as EU-274, with a maximum capacity of 0.23 pounds of carbon per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-162, which vents internally;
 - (3) Two (2) EDM mill machines identified as EU-275 and EU-277, constructed in 1998, each with a maximum capacity of 0.06 pounds of carbon per hour, utilizing one (1) fabric filter cartridge for particulate matter control, and exhausting through stack SV-163, which vents internally;
 - (4) One (1) OKK CNC milling machine identified as EU-292, constructed in 1979, controlled for particulate matter by one (1) fabric filter cartridge, and exhausting at one (1) stack identified as SV-176, which vents internally; and
 - (5) Four (4) surface grinders identified as EU-262 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, all utilizing one (1) fabric filter cartridge unit for particulate matter control, and exhausting through stack SV-161, which vents internally.
- (r) Any unit emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:
 - (1) Trichloroethylene used for smoothing flaw marks on wax molds, with a maximum usage of 110 gallons per year;
- (s) Seven (7) milling machines, each with a maximum capacity of 0.10 pounds of steel per hour;
- (t) One (1) two-head degator, identified as EU-046;
- (u) One (1) surface mill machine identified as EU-025;

- (v) Nineteen (19) miscellaneous belt sanders, grinders, saws, and degaters with particulate matter emissions below 5 pounds per hour before controls:
 - (1) Burr King belt sander (Aero-0703);
 - (2) Roboform EDM (Aero-0700);
 - (3) SBL EDM (Aero-0701);
 - (4) grinder (Aero-0702);
 - (5) Bador grinder (Aero-0273);
 - (6) band saw (Aero-0250);
 - (7) Cincinnati grinder (Aero-0445);
 - (8) Burr King belt sander (Aero-0463);
 - (9) 9-inch degator (Aero-0422);
 - (10) 9-inch degator (Aero-0422B);
 - (11) 8-inch degator (Aero-0423);
 - (12) Burr King belt sander (Aero-0539);
 - (13) six station degator (Aero-0424);
 - (14) automatic degator (Aero-0444);
 - (15) 6-inch belt sander (Aero-0704);
 - (16) Delta band saw (Aero-0372); and
 - (17) three Burr King belt sanders (Aero-0449, Aero-0376, and Aero-0516);
- (w) One (1) solvent based wax pattern cleaning operation utilizing Nalco Wax Cleaner or equivalent;
- (x) Twelve (12) work benches using trichloroethylene for wax repair;
- (y) Twelve (12) heat torches to melt wax;
- (z) Twenty-two (22) 48-inch ceiling fans;
- (aa) One (1) 12-inch gas food grill vent (closed unit);
- (bb) Twenty-four (24) non-volatiles/non-particulate matter emitting injection molders;
- (cc) One (1) steam autoclave wax melter;
- (dd) One water vapor vent exhaust identified as SV-088;
- (ee) One (1) aluminum melt pot with a maximum capacity of melting 225 pounds of aluminum per hour, identified as aluminum melt pot, controlled for particulate matter by one (1) cyclone, exhausting to one (1) stack identified as SV-061; and
- (ff) One (1) aluminum water blaster.

Note: The source requested to add an aluminum melt pot and aluminum water blaster to be included with this Title V Operating Permit. The potential to emit any criteria pollutant is less than (5) five tons per year, therefore they are exempt status and have been included as insignificant activities.

Existing Approvals

The source has constructed or has been operating under the following previous approvals:

- (a) F091-5507-00074, issued on April 7, 1997;
- (b) CP 091-8802-00074, issued on September 3, 1997;

- (c) SMF091-8786, issued on August 27, 1998;
- (d) SMF 091-10163, issued on May 12, 1999;
- (e) FSPR 091-11381-00120, issued on May 12, 2000; and
- (f) Experimental Operation 091-17350-00074, issued July 10, 2003.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Note: This source has been operating under a FESOP (F091-5507-00074) but has requested to be in the Part 70 program for greater source-wide flexibility.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this Part 70 permit:

- (a) All conditions related to the four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124 and two (2) melt pots identified as EU-119 and EU-120, permitted under FSPR 091-11381-00120, issued on May 12, 2000, have been removed because the units have not and will not be constructed;
- (b) Conditions related to the one (1) natural gas-fired boiler (for back-up use only) identified as EU-259, have been removed because the boiler has been removed;
- (c) PM and PM-10 testing requirements on one (1) caustic metal parts cleaning unit, identified as EU-001, exhausting at one (1) stack identified as S/V1 have been removed. This unit was tested in 1995. Based on the test results, the potential to emit of PM and PM10 can be estimated at twelve (12) tons per year which is less than 20% of the source total potential emissions for PM and PM10.
- (d) All FESOP conditions have been removed because the source transitioned to a TV permit; therefore, the FESOP limits are no longer applicable.

The following terms and conditions from previous approvals have been revised in this Part 70 permit:

- (a) All compliance requirements from previous approvals were incorporated into this Part 70 Permit, except the frequencies for visible emission notations and pressure drop/liquid flow rate readings across the wet scrubber and fabric filters have been changed to once per shift.

Reason changed: Compliance monitoring conditions are in the permit in order to ensure continuous compliance with the requirements. Control device failure can occur suddenly; therefore monitoring of relevant operational parameters should be more frequent than weekly or even daily in such cases where a source operates more than one shift per day. The OAQ believes that changing visible emissions notations to once per operating shift is a reasonable requirement. Therefore, the requirements to perform visible emissions notations have been changed from weekly to once per shift. This change likewise applies to the pressure drop readings.

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under

the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.

- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on September 5, 2000. A construction application with a request for Advanced Source Modification Approval to be incorporated with the Part 70 permit was received on November 1, 2001. The emissions from the equipment listed in this application for a source modification was determined to be at exempt level, therefore the new equipment was added as insignificant activities.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 18.)

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	greater than 250
PM-10	greater than 250
SO ₂	less than 25
VOC	less than 25
CO	less than 25
NO _x	less than 25

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Formaldehyde	less than 10
Lead	less than 10
Hexane	less than 10
Beryllium	less than 10
TCE	less than 10
TOTAL	less than 25

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of particulate matter (PM-10) is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

Note: This source is not considered a secondary metal production facility because only bars, billets, and in-house returns shall be melted in any of the furnaces. This source does not melt any post-consumer scrap materials. Therefore, this source is not considered a secondary metal production facility and is therefore, not one of the twenty-eight (28) listed source categories under 326 IAC 2-2.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1994 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	not reported
PM-10	7.0
SO ₂	0.0
VOC	1.0
CO	1.0
NO _x	1.0
HAP (specify)	not reported

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 operating permit.

Process/facility	Potential to Emit (tons/year)							
	PM	PM-10	SO ₂	VOC	CO	NO _x	Single HAP	Total HAPs
Electric Induction Furnaces (SV-007)	47.39 ²	33.57 ⁴	--	--	--	--	0.004 Beryllium ³	0.004 Beryllium ³
Electric Induction Furnaces (SV-021)	29.08 ²	22.38 ⁴	--	--	--	--	0.80 ⁵	0.80 ⁵
Shot Blasters, Knockout Machines and Sand Blaster (SV-048) ²	11.13	11.13	--	--	--	--	--	--

Process/facility	Potential to Emit (tons/year)							
	PM	PM-10	SO ₂	VOC	CO	NO _x	Single HAP	Total HAPs
Friction Saws (SV-081 through SV-085) ²	88.48	88.48	--	--	--	--	--	--
Sand Rainfall Units, Silica Rainfall Sander, Zircon Mix Tank (SV-017) ²	3.42	3.42	--	--	--	--	--	--
Rainfall Sander, Rainfall Sander/Fluidized Sand Bed, Fluidized Sand Bed (SV-016) ²	4.82	4.82	--	--	--	--	--	--
Rainfall Sander (SV-015) ²	2.41	2.41	--	--	--	--	--	--
Eight (8) Wax Burn Out Ovens ¹	22.09	22.09	--	--	--	--	--	--
Natural Gas Combustion ¹	0.13	0.52	0.04	0.38	5.77	6.86	0.12	0.13
Insignificant ¹ Activities	--	--	--	8.15	--	--	0.67	0.67
Shotblaster, Degater Machines, Key Polisher (SV-179) ²	3.81	3.81	--	--	--	--	--	--
Sandblasters (SV-175) ²	9.65	9.65	--	--	--	--	--	--
Abrasive Saw (Insignificant activity) (SV-060)	2.41	2.41	--	--	--	--	--	--

Process/facility	Potential to Emit (tons/year)							
	PM	PM-10	SO ₂	VOC	CO	NO _x	Single HAP	Total HAPs
Surface Grinder (SV-080), CNC Mill (SV-162), EDM Mills (SV-163), OKK CNC Mill (SV-176), Surface Grinders (SV-161) (Insignificant activities) ²	6.04	6.07	--	--	--	--	--	--
Two-head degator (EU-046), Surface Mill (EU-025), nineteen (19) misc. belt sanders, grinders, saws and degators (Insignificant activities)	2.76	2.76	--	--	--	--	--	--
Sandblast Cabinet System (SV-160) ²	2.41	2.41	--	--	--	--	--	--
Caustic Metal Parts Cleaning ¹	12.05	12.05	--	--	--	--	--	--
Aluminum Melt Pot (Insignificant activity) ¹	0.94	0.84	1.23	1.23	0.00	0.84	--	0.00
Total Emissions	249.02	228.82	1.27	9.76	5.77	7.70	0.80	1.60

1. Uncontrolled potential to emit.
2. Based on 326 IAC 6-3-2 allowable.
3. Beryllium limit based on 40 CFR 61, Subpart C.
4. Controlled potential to emit.
5. Limited lead emissions is based on controlled emissions; 0.80 tpy of lead is from all furnaces exhausting to stacks SV-007 and SV-021.

Note: PM-10 emissions are allowable emissions to render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

County Attainment Status

The source is located in LaPorte County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment

Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. LaPorte County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) LaPorte County has been classified as attainment or unclassifiable for all regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) This source is subject to the Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 61, Subpart C) "National Emission Standard for Beryllium", because this source is a foundry which processes beryllium alloys as defined in 61.31(j). Pursuant to this rule, emissions to the atmosphere shall not exceed 10 grams of beryllium over a 24-hour period or the source may request approval from the Administrator to meet an ambient concentration limit on beryllium in the vicinity of the stationary source of 0.01 ug/m³, averaged over a 30-day period.
- (c) The degreasing operations, as insignificant activities, are not subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 20, (40 CFR 63, Subpart T). Subpart T applies to degreasing operations using one of six listed halogenated solvents, or any combination of the solvents in a concentration greater than 5 percent by weight, as a cleaning or drying agent. The source does not use the regulated halogenated solvents in the degreasing operations; therefore, Subpart T does not apply.
- (d) The trichlorethylene used to smooth flaw marks on wax molds, as an insignificant activity, is not subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 20, (40 CFR 63, Subpart T), because the trichlorethylene is not used in a solvent cleaning operation nor is it used for parts cleaning.
- (e) The aluminum melt pot is not subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 20, (40 CFR 63, Subpart RRR), for Secondary Aluminum Production, because it melts only clean charge and the source does not operate sweat furnaces, thermal chip dryers, or scrap dryers/delaquering kilns/decoating kilns.
- (f) There are no other National Emission Standards for Hazardous Air Pollutants

(NESHAPs)(326 IAC 20 and 40 CFR Part 63) applicable to this source.

- (g) The requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are applicable to this source. Generally, such requirements apply to a Part 70 source that involves a pollutant-specific emissions unit (PSEU), as defined in 40 CFR 64.1, that meets the following criteria:

- (1) the unit is subject to an emission limitation or standard for an applicable regulated air pollutant,
- (2) the unit uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard, and
- (3) the unit has a potential to emit before controls equal to or greater than the applicable Part 70 major source threshold for the regulated pollutant.

The pollutant-specific emission units are not "large units" as described in 40 CFR 64.5. Therefore, the owner or operator shall submit a CAM plan pursuant to 40 CFR 64 as part of the Part 70 renewal application. The following pollutant specific emission units are subject to this rule:

Rainfall sander (EU-088), fluidized sand beds and rainfall sanders (EU-051, EU-110, EU-087), rainfall sanders and zircon mix tank (EU-049, EU-050, EU-107, EU-131), ceramic mold knockouts (EU-038 - EU-040), surface grinder (EU-012), friction saws (EU-033, EU-035 - EU-037, EU-133), surface grinders (EU-262 - EU-265), CNC mill (EU-274), EDM mill machines (EU-275, EU-276), CNC milling machine (EU-292), degators, key polisher (EU-266, EU-267, EU-269, EU-270).

- (h) The requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are not applicable to this source because the source has a potential to emit of less than 10 tons per year of a single HAP and less than 25 tons per year of the combination of HAPs.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

Compliance with the following is necessary to render PSD not applicable:

- (a) This source shall not melt any post-consumer scrap materials in any of the furnaces, identified as EU-007 through EU-010, EU058 and EU059. Only bars, billets, and in-house returns shall be melted in any of the furnaces. The source shall not engage in demagging, refining, or fluxing. Therefore, this source is not considered a secondary metal production facility and is therefore, not one of the 28 listed source categories.
- (b) PM emissions from the induction furnaces, identified as EU-007 - EU-010, exhausting to stack SV-007, and the induction furnaces, identified as EU-058 and EU-059, exhausting to stack SV-021, shall not exceed 10.82 pounds per hour and 6.64 pounds per hour respectively.
- (c) PM10 emissions from the induction furnaces, identified as EU-007 - EU-010, exhausting to stack SV-007, and the induction furnaces, identified as EU-058 and EU-059, exhausting to stack SV-021, shall not exceed 7.66 pounds per hour and 5.11 pounds per hour respectively.

- (d) The total PM and PM-10 emissions shall each not exceed 2.54 pounds per hour from the Shot Blasters (EU-034 and EU-041), the ceramic mold knock out machines (EU-038 through EU-040), and the Sandblaster (EU-042) combined, which exhaust through stack SV-048.
- (e) The PM and PM-10 emissions shall each not exceed 4.04 pounds per hour from each of the Friction Saws (EU-033, EU-035, EU-036, EU-037, and EU-133), exhausting through individual stacks identified as SV-084, SV-085, SV-083, SV-082, and SV-081, respectively.
- (f) The total PM and PM-10 emissions shall each not exceed 0.78 pounds per hour from the Silica Sand Rainfall Units (EU-049 and EU-050), the Silica Rainfall Sander (EU-107), and the Zircon Mix Tank (EU-131) combined, which exhaust through stack SV-017.
- (g) The total PM and PM-10 emissions shall each not exceed 1.10 pounds per hour from the Fluidized Sand Bed (EU-051), the Rainfall Sander/Fluidized Bed (EU-087) and the Silica Rainfall Sander (EU-110) combined, which exhaust through stack SV-016.
- (h) PM and PM-10 emissions shall each not exceed 0.55 pounds per hour from the Rainfall Sander (EU-088), which exhausts through stack SV-015.
- (i) PM and PM10 emissions shall each not exceed 0.63 pounds per hour from each of the wax burn out ovens (EU-002, EU-003, EU-004, EU-005, EU-060, EU-061, EU-084, and EU-085), which exhaust through stacks identified as SV-002, SV-003, SV-004, SV-005, SV-022, SV-023, SV-046 and SV-047, respectively.
- (j) PM and PM-10 emissions shall each not exceed 2.75 pounds per hour from the sodium hydroxide solution (caustic) metal parts cleaning unit (EU-001), exhausting at one (1) stack, identified as SV-001.
- (k) The total PM and PM10 emissions shall each not exceed 0.87 pounds per hour from the shot blaster (EU-137), the 2-inch degater (EU-266), the degater machine (EU-267), the 4-inch degater machine (EU-269), and the two station key polisher, (EU-270) combined, all exhausting at one (1) stack identified as SV-179.
- (l) The total PM and PM10 emissions shall not exceed 0.551 pounds per hour from the sandblast cabinet system, identified as EU-260, and exhausting through stack SV-160.
- (m) The total PM and PM10 emissions shall each not exceed 2.20 pounds per hour from the sandblasters (EU-284, EU-285, EU-286 and EU-287), all exhausting at one (1) stack identified as SV-175 combined.
- (n) PM and PM10 emissions shall each not exceed 0.551 pounds per hour from the abrasive saw (EU-086), exhausting at one (1) stack identified as SV-060.
- (o) The total PM and PM10 emissions shall each not exceed 1.38 pounds per hour from the surface grinder (EU-012), the CNC mill (EU-274), the EDM mill machines (EU-275 and EU277), the OKK CNC milling machine (EU-292), the surface grinders (EU-262 - EU-265) combined.
- (p) The total PM and PM10 emissions shall each not exceed 0.63 pounds per hour from the two-head degator (EU-046), surface mill (EU-025), and nineteen (19) miscellaneous belt sanders, grinders, saws and degators combined.

- (q) The PM and PM10 emissions shall not exceed 0.21 pounds per hour and 0.20 pounds per hour, respectively, from the one (1) aluminum melt pot.

These limits are necessary to limit the source-wide potential to emit of PM and PM10 to less than 250 tons per year to render the requirements of 326 IAC 2-2 not applicable. These emissions combined with potential PM and PM10 emissions from other units are less than 250 tons per year.

Potential uncontrolled emissions of all other criteria pollutants is less than 250 tons per year, therefore, the requirements of this rule do not apply.

326 IAC 2-4.1-1 (New Source Toxics Control)

This source is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control) because the source has PTE of any HAP less than 10 tons per year and PTE of any combination of HAPs less than 25 tons per year. Therefore, 326 IAC 2-4.1-1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM10. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 2-8 (FESOP)

This source is no longer subject to the requirements of this rule. The source has opted to be in the Part 70 program for greater source-wide flexibility, therefore, the PM-10 emission limits pursuant to FESOP (F091-5507-00074), issued on April 7, 1997, to comply with 326 IAC 2-8 are not applicable.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

The 3.35 MMBtu per hour boiler, constructed in 1983, is subject to 326 IAC 6-2-3 because it was in operation prior to the September 21, 1983 rule applicability date. Pursuant to 326 IAC 6-2-3, the particulate matter (PM) emissions shall be limited to 1.77 pound per MMBtu heat input based on the following equation:

$$Pt = (C \times a \times h) / (76.5 \times Q^{0.75} \times N^{0.25})$$

where: Pt = maximum allowable pounds of PM emitted per MMBtu heat input
Q = total source maximum heat input in MMBtu per hour

C = maximum ground level concentration, 50F/m³
a = plume rise factor, 0.67
h = stack height
N = number of stacks

$$Pt = (50 \times 0.67 \times 10) / (76.5 \times 3.35^{0.75} \times 1^{0.25}) = 1.77 \text{ pound per MMBtu}$$

However, pursuant to 326 IAC 6-2-3(e) (Particulate Matter Emission Limitations for Sources of Indirect Heating), indirect heating units which have 250 MMBtu/hr heat input or less and which began operation after June 8, 1972, shall in no case exceed 0.6 lb/MMBtu heat input. Therefore PM emissions from the 3.35 MMBtu per hour boiler (constructed in 1983) shall be limited to 0.6 lb/MMBtu heat input. The compliance calculation is as follows:

Potential PM emissions = 0.03 tons/yr * 2000 lbs/ton / 8760 hrs/yr = 0.007 lbs/hr

Potential PM emissions = 0.007 lbs/hr / 3.35 MMBtu/hr = 0.002 lbs/MMBtu (will comply)

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the particulate from the processes listed in the table below shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Emission Units and ID Numbers	Stack ID	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Particulate Allowable (lb/hr)	Controlled/ Limited Particulate Emissions (lb/hr)	In Compliance?
Induction Furnace (EU-007) ¹	SV-007	0.365	10.82	7.66	Y
Induction Furnace (EU-008) ¹		0.365			
Induction Furnace (EU-009) ¹		0.73			
Induction Furnace (EU-010) ¹		0.73			
Induction Furnace (EU-058) ¹	SV-021	0.73	6.64	5.11	Y
Induction Furnace (EU-059) ¹		0.73			
Shot Blasters (EU-032, EU-034, and EU-041), Knock-out machines (EU-038, EU-039 and EU-040), and Sand Blaster (EU-042) ¹	SV-048	0.49	2.54	0.75	Y
Friction Saws (EU-133)	SV-081	0.98	4.04	0.74	Y
Friction Saws (EU-037)	SV-082	0.98	4.04	0.74	Y
Friction Saws (EU-036)	SV-083	0.98	4.04	0.74	Y

Emission Units and ID Numbers	Stack ID	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Particulate Allowable (lb/hr)	Controlled/ Limited Particulate Emissions (lb/hr)	In Compliance?
Friction Saws (EU-033)	SV-084	0.98	4.04	0.74	Y
Friction Saws (EU-035)	SV-085	0.98	4.04	0.74	Y
Sand Rainfall Units (EU-049 and EU-050), Silica Rainfall Sander (EU-107), and Zircon mix tank (EU-131) ¹	SV-017	0.084	0.78	0.258	Y
Rainfall Sander, Fluidized Sand Bed (EU-051, EU-110), Rainfall Sander/Fluidized Sand Bed (EU-087)	SV-016	0.042	0.49	0.258	Y
Rain Fall Sander (EU-088)	SV-015	0.021	0.551	0.258	Y
Eight (8) Wax Burn Out Ovens (EU-002 through EU-005, EU-060, EU-061, EU-084, and EU-085)	SV-002, 003, 004, 005, 022, 023, 046, 047	0.46 each	2.43 each	0.63 each	Y
Caustic Metal Parts Cleaner (EU-001)	SV-001	2.45	7.47	5.48E-05	Y
Sandblast Cabinet (EU-260)	SV-160	0.050	0.551	0.030	Y
Sandblasters (EU-284 through 287) ¹	SV-175	0.116	0.97	0.150	Y
Shotblaster (EU-137), degater machines (EU-266, EU-267, EU-269), key polisher (EU-270) ¹	SV-179	0.099	0.87	0.299	Y
Aluminum Melt Pot (Insignificant activity)	SV-061	0.11	0.95	0.01	Y

¹ For purposes of demonstrating compliance with the particulate emission limits established in 326 IAC 6-3-2 for units exhausting to the same stack, the allowable particulate emission rates were added together for one overall limit.

Particulate emissions from the following exhausts shall be in compliance with 326 IAC 6-3-2 by controlling particulate emissions with cyclones or baghouses:

SV-007, SV-021, SV-048, SV-081 - SV-085, SV-015 - SV-017, SV-179, and SV-175.

The following units each have a process weight rate of less than 100 pounds per hour and each have particulate allowable emissions of 0.551 pounds per hour:

Surface grinder (EU-012), Surface grinders (EU-262 - EU265), EDM Mill Machines (EU-275 & 277), CNC Milling Machine (EU-292), Abrasive Saw (EU-086), and CNC Milling Machines (EU-274).

326 IAC 8-1-6 (General Volatile Organic Compound Reduction Requirements)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, and which have potential volatile organic compound (VOC) emissions of 25 tons per year or more. This source has no facilities with potential VOC emissions at, or in excess of 25 tons per year, therefore 326 IAC 8-1-6 does not apply.

326 IAC 8-3-2 (Cold Cleaner Operations)

(a) The Safety Kleen degreaser and H.D. degreaser, each using less than 145 gallons of solvent per year, are subject to the requirements of 326 IAC 8-3-2 (Cold cleaner operation) since they were constructed after January 1, 1980. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations the owner or operator shall:

- (1) Equip the cleaner with a cover;
- (2) Equip the cleaner with a facility for draining cleaned parts;
- (3) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (5) Provide a permanent, conspicuous label summarizing the operation requirements;
- (6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

(b) Two (2) solvent wash tanks identified as EU-276 and EU-294, are not subject to 326 IAC 8-3-2 because they were constructed in 1979, before the rule applicability date.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

(a) The Safety Kleen degreaser and H.D. degreaser, each using less than 145 gallons of solvent per year, are also subject to the requirements of 326 IAC 8-3-5 since they were constructed after July 1, 1990. Pursuant to this rule, the Permittee shall comply with the following requirements for cold cleaner degreaser operation and control:

- (1) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the Permittee shall ensure that the following control equipment requirements are met:
 - (i) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.

- (ii) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (iii) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
- (iv) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (v) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (2) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
 - (i) Close the cover whenever articles are not being handled in the degreaser.
 - (ii) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (iii) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
- (b) Two (2) solvent wash tanks identified as EU-276 and EU-294, are not subject to 326 IAC 8-3-2 because they were constructed in 1979, before the rule applicability date.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This rule applies to sources commencing operation after October 7, 1974 and prior to January 1, 1980, located anywhere in the state, with potential VOC emissions of 100 tons per year or more, and not regulated by any other provision of Article 8. This source does not have potential VOC

emissions at, or in excess of 100 tons per year, therefore 326 IAC 8-6 does not apply.

326 IAC 11-1 (Emission Limitations for Existing Foundries)

This rule establishes specific emission limitations for particulate matter from foundries in operation on or before December 6, 1968. Foundries beginning operation after December 6, 1968 are required to comply with the emission limits specified in 362 IAC 6-3. This rule is not applicable to this source since the foundry was not in existence prior to December 6, 1968.

Testing Requirements

- (a) The Permittee shall perform beryllium testing on furnaces EU-007 - EU-010 at the cyclone exhaust stack (SV-007) to show compliance with 40 CFR 61, Subpart C (National Emission Standard for Beryllium) utilizing methods per 40 CFR Part 61 Appendix B, Method 104. Method 103 of Appendix B to this part is approved by the Administrator as an alternative method. Testing was conducted in January 2001 to comply with the testing requirements in the FESOP (F091-5507-00074), issued April 7, 1997, and was found to be in compliance. This test must be repeated at least once every five years from the date of valid compliance demonstration, therefore compliance testing shall be completed no later than January 2006.

Beryllium testing is not required on furnaces EU-058 or EU-059 because metals used in these furnaces do not contain beryllium.

- (b) The Permittee shall perform PM and PM-10 testing on the electric induction furnaces, identified as EU-007 through EU-010, exhausting to stack SV-007, and EU-058 and EU-059, exhausting to stack SV-021, utilizing methods as approved by the Commissioner. Testing was conducted in January 2001 to comply with the testing requirements of FESOP (F091-5507-00074), issued April 7, 1997. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration, therefore compliance testing shall be completed no later than January 2006.
- (c) Within 180 days after the issuance of this permit, the Permittee shall perform PM and PM-10 testing on the three (3) shot blasters identified as EU-032, EU-034, and EU-041, three (3) ceramic mold knock out machines identified as EU-038, EU-039, and EU-040, and one (1) sandblaster identified as EU-042 exhausting to Stack 048, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.
- (d) Within 180 days after the issuance of this permit, the Permittee shall perform PM and PM-10 testing on at least two (2) of the wax burn out ovens, identified as EU-002 through EU-005, EU-060, EU061, EU-084 and EU085, exhausting to stacks SV-002 through SV-005, SV-022, SV-023, SV-046 and SV-047, respectively, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. This test is required because an alternate emission factor was used to determine the potential to emit of PM and PM-10 which must be verified.
- (e) PM and PM-10 testing is not required on the five (5) friction saws (EU-033, EU-035, EU-036, EU-037 and EU-133), exhausting respectively to stacks SV-084, SV-085, SV-083, SV-082, and SV-081, because these units do not meet the IDEM, OAQ requirements for testing.

- (f) PM and PM-10 testing is not required on the three (3) silica sand rain fall sanders (EU-049, EU-050, and EU-107), and one (1) Zircon mix tank (EU-131), exhausting to stack SV-017, because these units do not meet the IDEM, OAQ requirements for testing.
- (g) PM and PM-10 testing is not required on the one (1) fluidized sand bed (EU-051), the one (1) silica sand rain fall sander (EU-110) and one (1) rain fall sander/fluidized bed (EU-087), exhausting to stack SV-016, because these units do not meet the IDEM, OAQ requirements for testing.
- (h) PM and PM-10 testing is not required on the one (1) rain fall sander (EU-088) and the one (1) abrasive saw (EU-086), exhausting respectively to stacks SV-015 and SV-060, because these units do not meet the IDEM, OAQ requirements for testing.
- (i) PM and PM-10 testing is not required on the one (1) caustic metal parts cleaning unit (EU-001), exhausting at one (1) stack identified as SV-1 because this unit was tested in 1995 and based on the test results, the potential to emit of PM and PM10 can be estimated at twelve (12) tons per year which is less than 20% of the source total potential emissions for PM and PM10.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The six (6) electric induction melting furnaces, identified as EU-007, EU-008, EU-009, EU-010, EU-058 and EU-059, have applicable compliance monitoring conditions as specified below:

- (a) Once per shift visible emissions notations of the stack exhausts (SV-007 and SV-021) shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.
- (b) An inspection shall be performed each calendar quarter of all cyclones controlling the induction furnaces when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months.
- (c) In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

These monitoring conditions are necessary because the cyclones for the induction melting furnaces must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 5-1 (Opacity Limitations), 326 IAC 2-7 (Part 70), and for the source to remain a minor source under 326 IAC 2-2 (PSD).

- 2. Three (3) shot blasters identified as EU-032, EU-034, and EU-041, three (3) ceramic mold knock out machines identified as EU-038, EU-039, and EU-040, and one (1) sandblaster identified as EU-042 have applicable compliance monitoring conditions as specified below:

- (a) Once per shift visible emissions notations of the stack exhaust (SV-048) shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.
- (b) The Permittee shall record the total static pressure drop across the air collection system used in conjunction with the shotblasting, knock out machines, and sandblasting facilities, at least once per shift when the shotblasting, knock out machines, and sandblasting facilities are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the air collection system is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.
- (c) An inspection shall be performed each calendar quarter of the air collection systems controlling the shotblasting, knock out machines, and sandblasting facilities when venting to the atmosphere. An air collection system inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.
- (d) In the event that an Air Collection System failure has been observed:
 - (1) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be

considered a violation of this permit.

- (2) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (e) An inspection shall be performed each calendar quarter of all cyclones controlling the shotblasting, knock out machines, and sandblasting facilities when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months.
- (f) In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

These monitoring conditions are necessary because the air collection system and cyclones for the shot blasting and knock out machine processes must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 5-1 (Opacity Limitations), 326 IAC 2-7 (Part 70), and for the source to remain a minor source under 326 IAC 2-2 (PSD).

- 3. Five (5) friction saws (EU-033, EU-035, EU-036, EU-037, and EU-133), two (2) silica rain fall units (EU-049 and EU-050), one (1) silica rainfall sander (EU-107), one (1) Zircon mix tank (EU-131), one (1) fluidized sand bed (EU-051), one (1) silica rainfall sander (EU-110), and one (1) rainfall sander (EU-088) have applicable compliance monitoring conditions as specified below:

- (a) Once per shift visible emissions notations of the dust collectors stack exhausts (SV-081 through SV-085, SV-015 through SV-017) shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.
- (b) The Permittee shall record the total static pressure drop across each of the dust collectors used in conjunction with the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed, at least once per shift when the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the dust collectors is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.
- (c) An inspection shall be performed each calendar quarter of all dust collectors controlling the friction saws, silica sand rain fall units, silica rainfall sanders, Zircon mix tank, and fluidized sand bed when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

These monitoring conditions are necessary because the dust collectors for the friction saw systems must operate properly to ensure compliance with 326 IAC 6-3 Particulate Emission Limitations for Manufacturing Processes), 326 IAC 5-1 (Opacity Limitations), 326 IAC 2-7 (Part 70), and for the source to remain a minor source under 326 IAC 2-2 (PSD).

- 4. The following emission units with control devices do not have compliance monitoring requirements because each unit with a control device has an allowable emission rate of less than 10 pounds per hour:

Surface grinder (EU-12), sandblast cabinet (EU-260), surface grinders (EU-262 - EU-265), CNC mill (EU-274), EDM mill machines (EU-275, EU-276), sandblasters (EU284 - EU285), CNC milling machine (EU-292), shotblaster, degators and key polisher (EU137, EU-266, EU-267, EU-269, and EU-280).

Conclusion

The operation of this steel/brass/copper/aluminum investment casting operation shall be subject to the conditions of the attached proposed **Part 70 Permit No. T091-12683-00074.**

Appendix A: Emission Calculations

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley/EVP
Application Rec.: September 5, 2000

Uncontrolled Potential Emissions (tons/year)

Emissions Generating Activity								
Pollutant	Natural Gas Combustion	Aluminum Melt Pot	Wax Burn Out Ovens	Electric Induction Furnaces	Abrasive Blasting	Foundry Processes	Insignificant Activities	TOTAL
PM	0.13	0.94	22.09	111.91	187.36	218,892.66	0.00	219,215.09
PM10	0.52	0.84	22.09	111.91	183.56	218,892.66	0.00	219,211.58
SO ₂	0.04	1.23	0.00	0.00	0.00	0.00	0.00	1.27
NO _x	6.86	0.84	0.00	0.00	0.00	0.00	0.00	7.70
VOC	0.38	1.23	0.00	0.00	0.00	0.00	8.15	9.76
CO	5.77	0.00	0.00	0.00	0.00	0.00	0.00	5.77
total HAPs	0.13	0.00	0.00	1.60	0.00	0.00	0.67	2.40
worst case single HAP	0.12	0.00	0.00	1.60	0.00	0.00	0.67	1.60
hexane				lead			TCE	lead

Total emissions based on rated capacity at 8,760 hours/year.

All grinding/sanding/blasting operations are included with Foundry Processes.

Uncontrolled Beryllium emissions are 0.001 tons per year.

Natural Gas Combustion includes combustion emissions from wax burn out ovens.

Controlled Potential Emissions (tons/year)

Emissions Generating Activity								
Pollutant	Natural Gas Combustion	Aluminum Melt Pot	Wax Burn Out Ovens	Electric Induction Furnaces	Abrasive Blasting	Foundry Processes	Insignificant Activities	TOTAL
PM	0.13	0.05	22.09	55.95	0.93	30.57	0.00	109.72
PM10	0.52	0.04	22.09	55.95	0.91	30.57	0.00	110.08
SO ₂	0.04	1.23	0.00	0.00	0.00	0.00	0.00	1.27
NO _x	6.86	0.84	0.00	0.00	0.00	0.00	0.00	7.70
VOC	0.38	1.23	0.00	0.00	0.00	0.00	8.15	9.76
CO	5.77	0.00	0.00	0.00	0.00	0.00	0.00	5.77
total HAPs	0.13	0.00	0.00	0.80	0.00	0.00	0.67	1.60
worst case single HAP	0.12	0.00	0.00	0.80	0.00	0.00	0.67	0.80
hexane				lead			TCE	lead

Total emissions based on rated capacity at 8,760 hours/year.

All grinding/sanding/blasting operations are included with Foundry Processes.

Controlled Beryllium emissions are 0.0005 tons per year.

Natural Gas Combustion includes combustion emissions from wax burn out ovens.

Appendix A: Emission Calculations

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Pit ID: 091-00074
Reviewer: Linda Quigley/EVP
Application Rec.: September 5, 2000

The following calculations were determined from stack testing performed on SV007 and SV021 during January 2001. The emissions testing was performed under conditions where the melting furnaces were operating at only 906 pounds steel per hour for units exhausting to SV007, and 450 pounds steel per hour for units exhausting to SV021.

For the purposes of these emission calculations, the stack test results were increased by the factor (4,380/906), for SV007, and (2,920/450) for SV021, in order to estimate maximum facility PM/PM10 emissions.

The calculation to determine lead emissions from the electric induction furnaces based on USEPA AP-42 5th Edition factors for SCC #3-04-003-03. There are four (4) large furnaces each rated at 1,460 pounds of steel per hour and two (2) small furnaces each rated at 730 pounds of steel per hour.

Induction Melting Furnaces (EU007-EU010), Uncontrolled:

The total rated capacity for metal melting exhausting to SV007 is 4,380 pounds steel per hour (2.19 tons per hour).

PM/PM10	0.46 lb PM/hr (tested) x	4.83 pot. load/act. load x	4.38 ton/yr / lb/hr x (1/(1 - Control Efficiency))	19.48 tons/yr
HAPs (Lead)	2.19 tons steel/hr x	0.1 lb Lead/ton steel x	4.38 ton/yr / lb/hr =	0.96 tons/yr

Induction Melting Furnaces (EU007-EU010), Controlled:

PM/PM10	19.48 tons/year x	50% emitted after control =	9.74 tons/year
HAPs (Lead)	0.96 tons/year x	50% emitted after control =	0.48 tons/year

Induction Melting Furnaces (EU058-EU059), Uncontrolled:

The total rated capacity for metal melting exhausting to SV021 is 2,920 pounds steel per hour (1.46 tons per hour).

PM/PM10	0.22 lb PM/hr (tested) x	6.49 pot. load/act. load x	4.38 ton/yr / lb/hr x (1/(1 - Control Efficiency))	12.51 tons/yr
HAPs (Lead)	1.46 tons steel/hr x	0.1 lb Lead/ton steel x	4.38 ton/yr / lb/hr =	0.64 tons/yr

Induction Melting Furnaces (EU058-EU059), Controlled:

PM/PM10	12.51 tons/year x	50% emitted after control =	6.25 tons/year
HAPs (Lead)	0.64 tons/year x	50% emitted after control =	0.32 tons/year

Note:

Aero Metals uses a steel/brass alloy which is composed mainly of steel. AP-42 emission factors for the production of brass in induction melting furnaces has a rating of E and therefore this emission factor would not accurately reflect the composition of the metal being melted. Therefore, emission estimates are based on the January 2001 stack test results.

Copper Production, (EU007 - EU-010, EU058, EU059) Uncontrolled:

USEPA AP-42 5th Edition factors for SCC #3-04-002-23.

The total rated capacity for copper melting is 7,300 pounds copper per hour (3.65 tons per hour).

PM	3.65 tons copper/hr x	7 lb PM/ton copper x	8760 hr/yr /	2000 lb / ton =	111.91 tons/yr
PM10	3.65 tons copper/hr x	7 lb PM10/ton copper x	8760 hr/yr /	2000 lb / ton =	111.91 tons/yr

Copper Production, (EU007 - EU-010, EU058, EU059) Controlled:

PM	111.91 tons/year x	50% emitted after control =	55.95 tons/year
PM10	111.91 tons/year x	50% emitted after control =	55.95 tons/year

Note:

Copper production assumes full capacity of furnaces as worst case scenario. It is exclusive of the steel melting, therefore is used for worst case potential to emit

Induction Melting Furnaces (EU007-EU010), Uncontrolled Beryllium Emissions:

Beryllium	0.0076 grams/hr (tested) x	12.882 pot.load/act.load x	2.20E-03 lbs/grams x	4.38 ton/yr / lb/hr x	(1/(1 - control eff.))
					0.002 tons/yr

Note:

The total rated capacity for beryllium containing metal is 4380 pounds per hour (2.19 tons per hour).

The stack test performed in January 2001 was conducted under conditions where the furnaces were operating at 340 pounds of metal per hour. Therefore, for the purposes of these emission calculations, the stack test results were increased by the factor (4,380/340) in order to estimate maximum facility Beryllium emissions.

Induction Melting Furnaces (EU007-EU010), Controlled Beryllium Emissions:

Beryllium	0.002 tons/year x	50% emitted after control =	0.001 tons/year
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Wax Burn Out Ovens (EU002-EU005,EU060,EU061,EU084,EU085):

The following calculations were determined from stack testing performed on EU2-EU5 stacks during July of 1995. The emissions testing was performed under conditions where the melting furnaces were operating at only 715 pounds steel per hour (32.6 % of their rated capacity). For the purposes of these emission calculations, the stack test results were increased by the factor (7,300/715) in order to estimate maximum facility PM/PM10 emissions. Although burn out oven PM emissions may not directly correspond to melt furnace load, insufficient test data were available for use of strict stack test results. Pollutant emission rates due to combustion are included under the natural gas combustion calculations.

PM/PM10	0.494 lb PM/hr (tested) x	10.21 pot. load/act. load x	4.38 ton/yr / lb/hr =	22.09 tons/yr
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Aluminum Melt Pot, Uncontrolled:

USEPA AP-42 5th Edition factors for SCC #3-04-001-02.

The total rated capacity for aluminum melting is 225 pounds aluminum per hour (0.1125 tons per hour).

PM	0.1125 tons aluminum/hr x	1.9 lb PM/ton aluminum x	8760 hr/yr /	2000 lb / ton =	0.94 tons/yr
PM10	0.1125 tons aluminum/hr x	1.7 lb PM/ton aluminum x	8760 hr/yr /	2000 lb / ton =	0.84 tons/yr

Aluminum Melt Pot, Controlled:

PM	0.94 tons/year x	5% emitted after control =	0.05 tons/year
PM10	0.84 tons/year x	5% emitted after control =	0.04 tons/year

Appendix A: Addendum to Emission Calculations

Company Name: **Aero Metals**
 Address City IN Zip: **402 Darlington Street, LaPorte, Indiana, 46350**
 TV: **091-12683**
 Plt ID: **091-00074**
 Reviewer: **Linda Quigley/EVP**
 Application Rec.: **September 5, 2000**

The following calculations were determined from stack testing performed on SV007 and SV021 during January 2001. The emissions testing was performed under conditions where the melting furnaces were operating at only 906 pounds steel per hour for units exhausting to SV007, and 450 pounds steel per hour for units exhausting to SV021.

For the purposes of these emission calculations, the stack test results were increased by the factor (3000/906), for SV007, and (1600/450) for SV021, in order to estimate maximum facility PM/PM10 emissions.

The calculation to determine lead emissions from the electric induction furnaces based on USEPA AP-42 5th Edition factors for SCC #3-04-003-03. There are two (2) furnaces rated at 600 pounds of steel per hour, two (2) furnaces rated at 900 pounds of steel per hour, and two (2) furnaces rated at 800 pounds of steel per hour.

Induction Melting Furnaces (EU007-EU010), Uncontrolled:

The total rated capacity for metal melting exhausting to SV007 is 3,000 pounds steel per hour (1.50 tons per hour).

PM/PM10	0.46 lb PM/hr (tested) x	3.31 pot. load/act. load x	4.38 ton/yr / lb/hr x (1/(1 - Control Efficiency))	13.34 tons/yr
HAPs (Lead)	1.5 tons steel/hr x	0.1 lb Lead/ton steel x	4.38 ton/yr / lb/hr =	0.66 tons/yr

Induction Melting Furnaces (EU007-EU010), Controlled:

PM/PM10	13.34 tons/year x	50% emitted after control =	6.67 tons/year
HAPs (Lead)	0.66 tons/year x	50% emitted after control =	0.33 tons/year

Induction Melting Furnaces (EU058-EU059), Uncontrolled:

The total rated capacity for metal melting exhausting to SV021 is 1,600 pounds steel per hour (0.80 tons per hour).

PM/PM10	0.22 lb PM/hr (tested) x	3.56 pot. load/act. load x	4.38 ton/yr / lb/hr x (1/(1 - Control Efficiency))	6.85 tons/yr
HAPs (Lead)	0.8 tons steel/hr x	0.1 lb Lead/ton steel x	4.38 ton/yr / lb/hr =	0.35 tons/yr

Induction Melting Furnaces (EU058-EU059), Controlled:

PM/PM10	6.85 tons/year x	50% emitted after control =	3.43 tons/year
HAPs (Lead)	0.35 tons/year x	50% emitted after control =	0.18 tons/year

Note:

Aero Metals uses a steel/brass alloy which is composed mainly of steel. AP-42 emission factors for the production of brass in induction melting furnaces has a rating of E and therefore this emission factor would not accurately reflect the composition of the metal being melted. Therefore, emission estimates are based on the January 2001 stack test results.

Copper Production, (EU007 - EU-010, EU058, EU059) Uncontrolled:

USEPA AP-42 5th Edition factors for SCC #3-04-002-23.

The total rated capacity for copper melting is 4,600 pounds copper per hour (2.30 tons per hour).

PM	2.3 tons copper/hr x	7 lb PM/ton copper x	8760 hr/yr /	2000 lb / ton =	70.52 tons/yr
PM10	2.3 tons copper/hr x	7 lb PM10/ton copper x	8760 hr/yr /	2000 lb / ton =	70.52 tons/yr

Copper Production, (EU007 - EU-010, EU058, EU059) Controlled:

PM	70.52 tons/year x	50% emitted after control =	35.26 tons/year
PM10	70.52 tons/year x	50% emitted after control =	35.26 tons/year

Note:

Copper production assumes full capacity of furnaces as worst case scenario. It is exclusive of the steel melting, therefore is used for worst case potential to emit

Induction Melting Furnaces (EU007-EU010), Uncontrolled Beryllium Emissions:

Beryllium	0.0076 grams/hr (tested) x	8.824 pot.load/act.load x	2.20E-03 lbs/grams x	4.38 ton/yr / lb/hr x	(1/(1 - control eff.))
					0.001 tons/yr

Note:

The total rated capacity for beryllium containing metal is 3000 pounds per hour (1.50 tons per hour).

The stack test performed in January 2001 was conducted under conditions where the furnaces were operating at 340 pounds of metal per hour. Therefore, for the purposes of these emission calculations, the stack test results were increased by the factor (3000/340) in order to estimate maximum facility Beryllium emissions.

Induction Melting Furnaces (EU007-EU010), Controlled Beryllium Emissions:

Beryllium	0.001 tons/year x	50% emitted after control =	0.001 tons/year
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Wax Burn Out Ovens (EU002-EU005,EU060,EU061,EU084,EU085):

The following calculations were determined from stack testing performed on EU2-EU5 stacks during July of 1995. The emissions testing was performed under conditions where the melting furnaces were operating at only 715 pounds steel per hour (32.6 % of their rated capacity). For the purposes of these emission calculations, the stack test results were increased by the factor (7,300/715) in order to estimate maximum facility PM/PM10 emissions. Although burn out oven PM emissions may not directly correspond to melt furnace load, insufficient test data were available for use of strict stack test results. Pollutant emission rates due to combustion are included under the natural gas combustion calculations.

PM/PM10	0.494 lb PM/hr (tested) x	10.21 pot. load/act. load x	4.38 ton/yr / lb/hr =	22.09 tons/yr
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Aluminum Melt Pot, Uncontrolled:

USEPA AP-42 5th Edition factors for SCC #3-04-001-02.

The total rated capacity for aluminum melting is 225 pounds aluminum per hour (0.1125 tons per hour).

PM	0.1125 tons aluminum/hr x	1.9 lb PM/ton aluminum x	8760 hr/yr /	2000 lb / ton =	0.94 tons/yr
PM10	0.1125 tons aluminum/hr x	1.7 lb PM/ton aluminum x	8760 hr/yr /	2000 lb / ton =	0.84 tons/yr

Aluminum Melt Pot, Controlled:

PM	0.94 tons/year x	5% emitted after control =	0.05 tons/year
PM10	0.84 tons/year x	5% emitted after control =	0.04 tons/year

Appendix A: Process Particulate Emissions**Foundry Processes**

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Uncontrolled Potential Emissions (tons/year)								
A. Baghouses								
Emission Unit ID	Process	Stack ID	No. of Units	Grain Loading per Actual Cubic Foot of Outlet Air	Air to Cloth Ratio Air Flow (acfm/ft²)	Total Filter Area (ft²)	Control Efficiency	Total (tons/yr)
FU-088	rainfall sander	SV-015	1	0.010000	12.50	240	99.97%	3754.29
FU-051, FU-110, FU-087	fluidized sand beds, rainfall sanders	SV-016	1	0.010000	12.50	240	99.97%	3754.29
FU-049, FU-050, FU-107, FU-131	rainfall sanders, zircon mix tank	SV-017	1	0.010000	12.50	240	99.97%	3754.29
FU-038, EU-039, EU-040	ceramic mold knock outs	SV-048	1	0.010000	1.10	8,000	99.97%	11012.57
FU-012*	surface grinder	SV-080	1	0.010000	9.09	220	99.99%	7507.82
FU-133	friction saw	SV-081	1	0.010000	2.99	2,880	99.99%	32328.91
FU-037	friction saw	SV-082	1	0.010000	2.98	2,880	99.99%	32220.78
FU-036	friction saw	SV-083	1	0.010000	2.99	2,880	99.99%	32328.91
FU-033	friction saw	SV-084	1	0.010000	2.99	2,880	99.99%	32328.91
FU-035	friction saw	SV-085	1	0.010000	2.99	2,880	99.99%	32328.91
FU-262 - FU-265*	surface grinders	SV-161	1	0.010000	2.90	618	99.99%	6728.43
FU-274*	CNC mill	SV-162	1	0.010000	2.50	720	99.99%	6757.71
FU-275, FU-277*	FDM mill machines	SV-163	1	0.010000	2.90	2,700	99.90%	2939.61
FU-292*	CNC milling machine	SV-176	1	0.010000	2.50	720	99.99%	6757.71
FU-266, FU-267, FU-269, FU-270	degators, key polisher	SV-179	1	0.010000	1.82	1,920	99.97%	4372.99
Total								218876.11
B. Cyclone								
Emission Unit ID		Stack ID	No. of Units	Grain Loading per Actual Standard Cubic Foot of Outlet Air	Air Flow Rate (acfm)	Grains per Pound	Control Efficiency	Total (tons/yr)
FU-086	abrasive saw	SV-060	1	0.00200	3000.0	7,000.0	95.00%	4.51
Total								4.51
C. Scrubbers								
Emission Unit ID		Stack ID	No. of Units	Grain Loading per Actual Standard Cubic Foot of Outlet Air	Flow Rate (gpm)	Liquid to Air Ratio (gpm/1,000 acfm)	Control Efficiency	Total (tons/yr)
FU-001**	caustic metal parts cleaner	SV-001	1	0.00430	2.0	0.7	96.00%	12.05
Total								12.05
Total Emissions Based on Rated Capacity at 8,760 Hours/Year								218892.66

* designates insignificant activity based on grain loading of less than or equal to 0.03 grains per acf and a gas flow rate less than 4,000 acfm.

** caustic metal scrubber emissions are based on 1995 stack test results which show the maximum grain loading to be 0.0043 grains/acf.

Methodology:**Uncontrolled Potential:**

Baghouse (tons/yr) = No. Units * Loading (grains/acf) * Air/Cloth Ratio (acfm/ft²) * Filter Area (ft²) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs * 1/(1-Control Efficiency)

Cyclones (tons/yr) = No. Units * Loading (grains/acf) * Air Flow Rate (acfm) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs * 1/(1-Control Efficiency)

Scrubber (tons/yr) = No. Units * Loading (grains/acf) * Flow Rate (gpm) * 1/Liquid to Air Ratio (gpm/1,000 acfm) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs * 1/(1-Control Efficiency)

Controlled Potential:

Baghouse (tons/yr) = No. Units * Loading (grains/acf) * Air/Cloth Ratio (acfm/ft²) * Filter Area (ft²) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs

Cyclones (tons/yr) = No. Units * Loading (grains/acf) * Air Flow Rate (acfm) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs

Scrubber (tons/yr) = No. Units * Loading (grains/acf) * Flow Rate (gpm) * 1/Liquid to Air Ratio (gpm/1,000 acfm) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs

Appendix A: Process Particulate Emissions

Foundry Processes

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Controlled Potential Emissions (tons/year)								
A. Baghouses								
Emission Unit ID		Stack ID	No. of Units	Grain Loading per Actual Cubic Foot of Outlet Air	Air to Cloth Ratio Air Flow (acfm/ft²)	Total Filter Area (ft²)	Control Efficiency	Total (tons/yr)
FU-088	rainfall sander	SV-015	1	0.010000	12.50	240	99.97%	1.13
FU-051, FU-110, FU-087	fluidized sand beds, rainfall sanders	SV-016	1	0.010000	12.50	240	99.97%	1.13
FU-049, FU-050, FU-107, FU-131	rainfall sanders, zircon mix tank	SV-017	1	0.010000	12.50	240	99.97%	1.13
FU-038, FU-039, FU-040	ceramic mold knock outs	SV-048	1	0.010000	1.10	8,000	99.97%	3.30
FU-012*	surface grinder	SV-080	1	0.010000	9.09	220	99.99%	0.75
FU-133	friction saw	SV-081	1	0.010000	2.99	2,880	99.99%	3.23
FU-037	friction saw	SV-082	1	0.010000	2.98	2,880	99.99%	3.22
FU-036	friction saw	SV-083	1	0.010000	2.99	2,880	99.99%	3.23
FU-033	friction saw	SV-084	1	0.010000	2.99	2,880	99.99%	3.23
FU-035	friction saw	SV-085	1	0.010000	2.99	2,880	99.99%	3.23
FU-262 - FU-265*	surface grinders	SV-161	1	0.010000	2.90	618	99.99%	0.67
FU-274*	CNC mill	SV-162	1	0.010000	2.50	720	99.99%	0.68
FU-275, FU-277*	EDM mill machines	SV-163	1	0.010000	2.90	2,700	99.90%	2.94
FU-292*	CNC milling machine	SV-176	1	0.010000	2.50	720	99.99%	0.68
FU-266, FU-267, FU-269, FU-270	degators, key polisher	SV-179	1	0.010000	1.82	1,920	99.97%	1.31
Total								29.86
B. Cyclone								
Emission Unit ID		Stack ID	No. of Units	Grain Loading per Actual Standard Cubic Foot of Outlet Air	Face Velocity Across the Plates (ft/sec)	Total Face Surface Area (ft²)	Control Efficiency	Total (tons/yr)
FU-086	abrasive saw	SV-060	1	0.002000	3000.0	7,000	95.00%	0.23
Total								0.23
C. Scrubbers								
Emission Unit ID		Stack ID	No. of Units	Grain Loading per Actual Standard Cubic Foot of Outlet Air	Flow Rate (gpm)	Liquid to Air Ratio (gpm/1,000 acfm)	Control Efficiency	Total (tons/yr)
FU-001**	caustic metal parts cleaner	SV-001	1	0.00430	2.0	0.7	96.00%	0.48
Total								0.48
Total Emissions Based on Rated Capacity at 8,760 Hours/Year and source controls								30.57

* designates insignificant activity based on grain loading of less than or equal to 0.03 grains per acf and a gas flow rate less than 4,000 acfm.

** caustic metal scrubber emissions are based on 1995 stack test results which show the maximum grain loading to be 0.0043 grains/acf.

Appendix A: Emission Calculations
Abrasive Blasting for EU-032

Page 5 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	246.6
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

657
82
99
0.375
0.375

Flow Rate (FR) (lb/hr) = 544.182 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.004
544.182
0 %
1

Uncontrolled PM Emissions =	2.18 lb/hr
	9.53 ton/yr
Uncontrolled PM-10 Emissions =	1.87 lb/hr
	8.20 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	1.1E-02 lb/hr
	0.05 ton/yr
Controlled PM-10 Emissions =	9.4E-03 lb/hr
	0.04 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-034

Page 6 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	246.6
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

657
82
99
0.375
0.375

Flow Rate (FR) (lb/hr) = 544.182 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.004
544.182
0 %
1

Uncontrolled PM Emissions =	2.18 lb/hr
	9.53 ton/yr
Uncontrolled PM-10 Emissions =	1.87 lb/hr
	8.20 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.01 lb/hr
	0.05 ton/yr
Controlled PM-10 Emissions =	0.01 lb/hr
	0.04 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-041

Page 7 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	246.6
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

280
82
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 231.919 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.004
231.919
0 %
1

Uncontrolled PM Emissions =	0.93 lb/hr
	4.06 ton/yr
Uncontrolled PM-10 Emissions =	0.80 lb/hr
	3.49 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.00 lb/hr
	0.02 ton/yr
Controlled PM-10 Emissions =	0.00 lb/hr
	0.02 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-042

Page 8 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	60
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

280
60
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 169.697 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.010
169.697
0 %
1

Uncontrolled PM Emissions =	1.70 lb/hr
	7.43 ton/yr
Uncontrolled PM-10 Emissions =	1.70 lb/hr
	7.43 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.01 lb/hr
	0.04 ton/yr
Controlled PM-10 Emissions =	0.01 lb/hr
	0.04 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-137

Page 9 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	60
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

280
82
99
0.375
0.375

Flow Rate (FR) (lb/hr) = 231.919 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.004
231.919
0 %
1

Uncontrolled PM Emissions =	0.93 lb/hr
	4.06 ton/yr
Uncontrolled PM-10 Emissions =	0.80 lb/hr
	3.49 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.00 lb/hr
	0.02 ton/yr
Controlled PM-10 Emissions =	0.00 lb/hr
	0.02 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-260

Page 10 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	246.6
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

280
246.6
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 697.455 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.010
697.455
0 %
1

Uncontrolled PM Emissions =	6.97 lb/hr
	30.55 ton/yr
Uncontrolled PM-10 Emissions =	6.97 lb/hr
	30.55 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.03 lb/hr
	0.15 ton/yr
Controlled PM-10 Emissions =	0.03 lb/hr
	0.15 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-284

Page 11 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	246.6
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

280
246.6
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 697.455 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.010
697.455
0 %
1

Uncontrolled PM Emissions =	6.97 lb/hr
	30.55 ton/yr
Uncontrolled PM-10 Emissions =	6.97 lb/hr
	30.55 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.03 lb/hr
	0.15 ton/yr
Controlled PM-10 Emissions =	0.03 lb/hr
	0.15 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-285

Page 12 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	246.6
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

280
246.6
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 697.455 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.010
697.455
0 %
1

Uncontrolled PM Emissions =	6.97 lb/hr
	30.55 ton/yr
Uncontrolled PM-10 Emissions =	6.97 lb/hr
	30.55 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.03 lb/hr
	0.15 ton/yr
Controlled PM-10 Emissions =	0.03 lb/hr
	0.15 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-286

Page 13 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	246.6
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

280
246.6
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 697.455 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.010
697.455
0 %
1

Uncontrolled PM Emissions =	6.97 lb/hr
	30.55 ton/yr
Uncontrolled PM-10 Emissions =	6.97 lb/hr
	30.55 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.03 lb/hr
	0.15 ton/yr
Controlled PM-10 Emissions =	0.03 lb/hr
	0.15 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for EU-287

Page 14 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley
Application Rec.: September 5, 2000

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	246.6
Sand	99
Steel	82

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)						
	30	40	50	60	70	80	90
1/8	28	35	42	49	55	63	70
3/16	65	80	94	107	122	135	149
1/4	109	138	168	195	221	255	280
5/16	205	247	292	354	377	420	462
3/8	285	355	417	477	540	600	657
7/16	385	472	560	645	755	820	905
1/2	503	615	725	835	945	1050	1160
5/8	820	990	1170	1336	1510	1680	1850
3/4	1140	1420	1670	1915	2160	2400	2630
1	2030	2460	2900	3340	3780	4200	4640

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

280
246.6
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 697.455 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.010
697.455
0 %
1

Uncontrolled PM Emissions =	6.97 lb/hr
	30.55 ton/yr
Uncontrolled PM-10 Emissions =	6.97 lb/hr
	30.55 ton/yr

Control Efficiency: 99.50%

Controlled PM Emissions =	0.03 lb/hr
	0.15 ton/yr
Controlled PM-10 Emissions =	0.03 lb/hr
	0.15 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Pit ID: 091-00074
Reviewer: Linda Quigley/EVP
Application Rec.: September 5, 2000

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

15.7

137.3

heaters each
rated at 0.08
MMBtu/hr.

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.13	0.52	0.04	6.86	0.38	5.77

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 6 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Page 16 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Pit ID: 091-00074
Reviewer: Linda Quigley/EVP
Application Rec.: September 5, 2000

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.441E-04	8.236E-05	5.148E-03	1.235E-01	2.334E-04

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	3.432E-05	7.550E-05	9.609E-05	2.608E-05	1.441E-04

Methodology is the same as page 5.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
VOC, Particulate and HAP

Page 17 of 18 TSD App A

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
TV: 091-12683
Plt ID: 091-00074
Reviewer: Linda Quigley/EVP
Application Rec.: September 5, 2000

VOC and Particulate emissions

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Transfer Efficiency
Safety Kleen	6.6	100.00%	0.0%	100.0%	0.0%	0.00%	0.03400	1.000	6.60	6.60	0.22	5.39	0.98	0.00	100%
Nalco Wax	7.6	100.00%	0.0%	100.0%	0.0%	0.00%	0.19527	1.000	7.60	7.60	1.48	35.62	6.50	0.00	100%
TCE	12.2	100.00%	0.0%	100.0%	0.0%	0.00%	0.01256	1.000	12.15	12.15	0.15	3.66	0.67	0.00	100%

State Potential Emissions

1.86 44.66 8.15 0.00

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

HAP emissions

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % TCE	TCE Emissions (ton/yr)
TCE	12.2	0.012557	1.00	100.00%	0.67

Total State Potential Emissions

0.67

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Welding and Thermal Cutting

Page 18 of 18 TSD App A

Insignificant Activities

Company Name: Aero Metals
Address City IN Zip: 402 Darlington Street, LaPorte, Indiana, 46350
Permit No./Plt ID: 091-12683-00074
Reviewer: Linda Quigley/EVP
Application Rec.: September 5, 2000

PROCESS	Number of Stations	max. electrode consumption per station (lbs/hr)		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Metal Inert Gas (MIG)(E7028)	2	0.0075		0.0075	0.001	0.0025	0.0015	1.125E-04	1.50E-05	3.75E-05	2.25E-05	7.500E-05
Stick (E7018 electrode)	1	0.009375		0.0211	0.0009			1.978E-04	8.44E-06			8.438E-06
Tungsten Inert Gas (TIG)(carbon steel)	2	0.014		0.0055	0.0005			1.540E-04	1.40E-05			1.400E-05
EMISSION TOTALS								PM = PM10	Mn	Ni	Cr	Total HAPs
Potential Emissions lbs/hr								4.64E-04	3.74E-05	0.00E+00	2.25E-05	9.74E-05
Potential Emissions lbs/day								1.11E-02	8.99E-04	0.00E+00	5.40E-04	2.34E-03
Potential Emissions tons/year								2.03E-03	1.64E-04	0.00E+00	9.86E-05	4.27E-04

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).

Welding and other flame cutting emission factors are from an internal training session document.

See AP-42, Chapter 12.19 for additional emission factors for welding.